Chillers

Commercial and Technical Data

Air Cooled Multiple Scroll Chillers

- **Multiple compressors per circuit**
- **Reliable and efficient scroll with high EER values**
- **Easy ‘plug and play’ installation**
- **Safety valves in each circuit**
- **Electronic expansion valve**
- **True dual plate brazed plate heat exchanger**
- **Separate switchbox for easy access**

ECDEN10-405

HYDROCUBE

EWAQ080-260DAYN
EWYQ080-250DAYN

R-410A

Daikin Europe N.V.

About Daikin

Daikin has a worldwide reputation based on over 85 years' experience in the successful manufacture of high quality air conditioning equipment for industrial, commercial and residential use. Daikin's much envied quality quite simply stems from the close attention paid to design, production and testing, as well as aftersales support. To this end, every component is carefully selected and rigorously tested to verify its contribution to product quality and reliability.

Introduction

The Daikin Hydrocube multiple scroll chiller represents a combination of technological innovation and control strategy within a single chilled water package. The unit offers a comprehensive and energy efficient solution capable of adapting to meet the needs of the most exacting project requirements. The unit is reliable and efficient due to its multiple compressors and refrigerant circuits running on R-410A and features electronic expansion valves and a low noise level. Installation is easy by virtue of its integrated hydronics. Furthermore, electronic control of the unit is considerably improved by the new control platform plus its connectivity to the Daikin Intelligent manager and I-touch controller.

Air cooled chillers

In the chilled water market, chillers of the air cooled type are most frequently used. Out of its wide range of chillers in cooling only or heat pump version, with of without integrated hydronic components, Daikin always offers you a chiller fitting your application needs.

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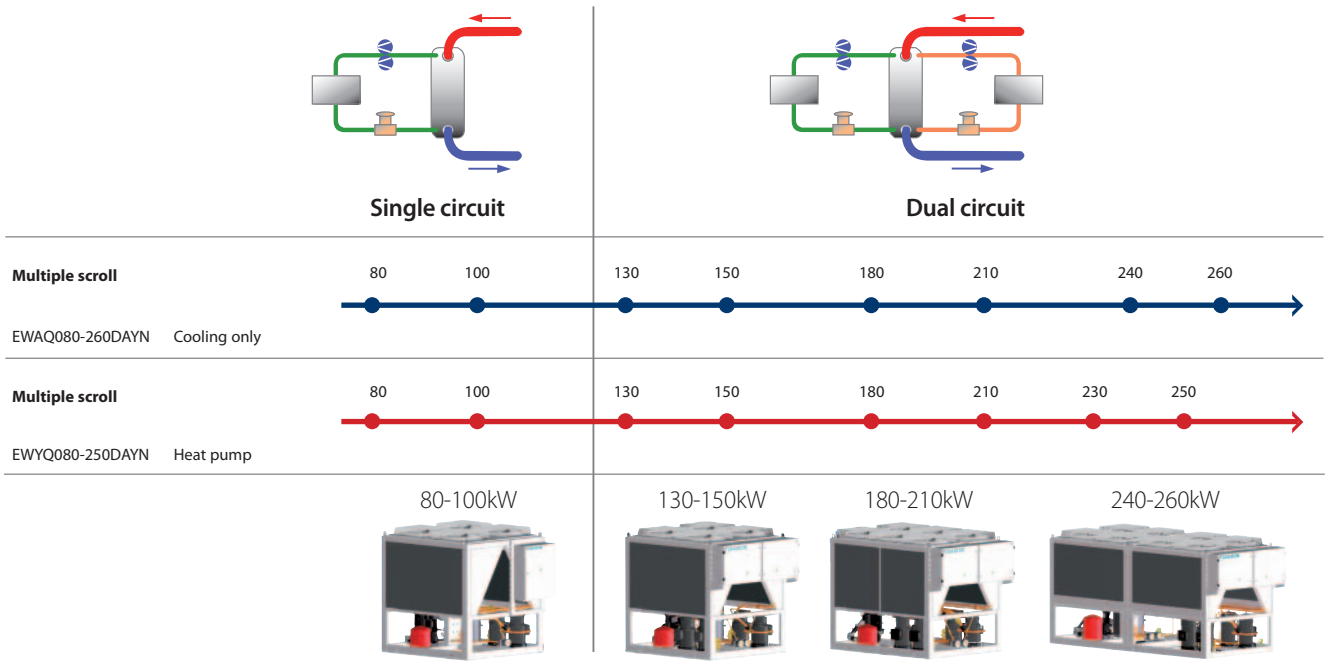
Air Cooled Multiple Scroll Chillers

Wide application range

Cooling only versions and heat pump versions are available between 80 and 260 kW



EWAQ-DAYN **N** = Standard model

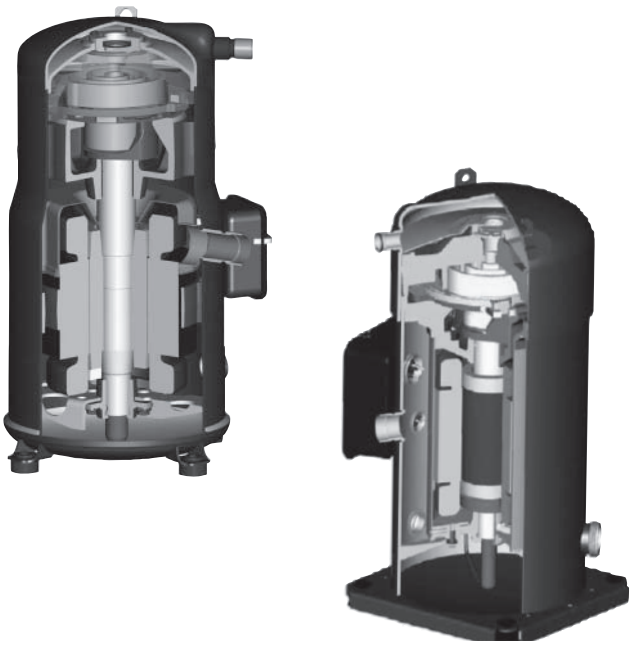
EWAQ-DAYN **P** = Standard model + single pump (OPSP)

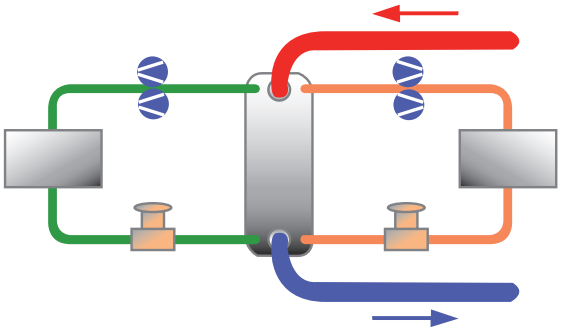
EWAQ-DAYN **B** = Standard model + single pump (OPSP) + buffer tank (OPBT)

Increased reliability and efficiency via multiple refrigerant circuits and multiple compressors per circuit

Multiple scroll compressors

Multiple scroll compressors per unit increase reliability and improve partial load efficiency. A high partial load efficiency with an average ESEER of 4.16 is feasible over the whole range. The unit incorporates highly reliable and efficient scroll compressors (average EER = 2.8), for outstanding performance at a low sound level over a wide range of operating conditions.





Multiple refrigerant circuits

Tandem scroll compressors on fully independent refrigerant circuits ensure high reliability: if one refrigerant circuit breaks down, the remaining circuits keep operating. A dual circuit heat exchanger (from >100kW) provides excellent part load conditions.

Electronic expansion valves as standard

The advanced electronic expansion valve reacts quickly to changes in conditions within the unit's wide operating range. Direct control of the system superheat maximises usage of the evaporator at much lower condensing temperatures. This leads to optimised energy consumption at low ambient or partload operation.

Integrated hydronics

The multiple scroll chillers come with various associated hydronic component packages to suit customer requirements. Standard fitted hydronics – water filter, air purge and flow switch – are fully integrated within the chiller unit and additional space is available for further optional components. Unit layout is such that all hydronic components can be accessed easily from 3 sides for maintenance purposes.

Integration of the optional components enables the chiller to be made operational in the shortest possible time without the need to add pumps, buffer tanks and expansion tanks etc.

Optional hydronics

Various pump options are available comprising different modular concepts providing flexibility in customer choice.

> **Single pump** (OPSP) – available ESP at nominal flow rate of 120kPa, shut-off valves on the water side and water manometer. A 35 or 50 litre expansion tank is also included.

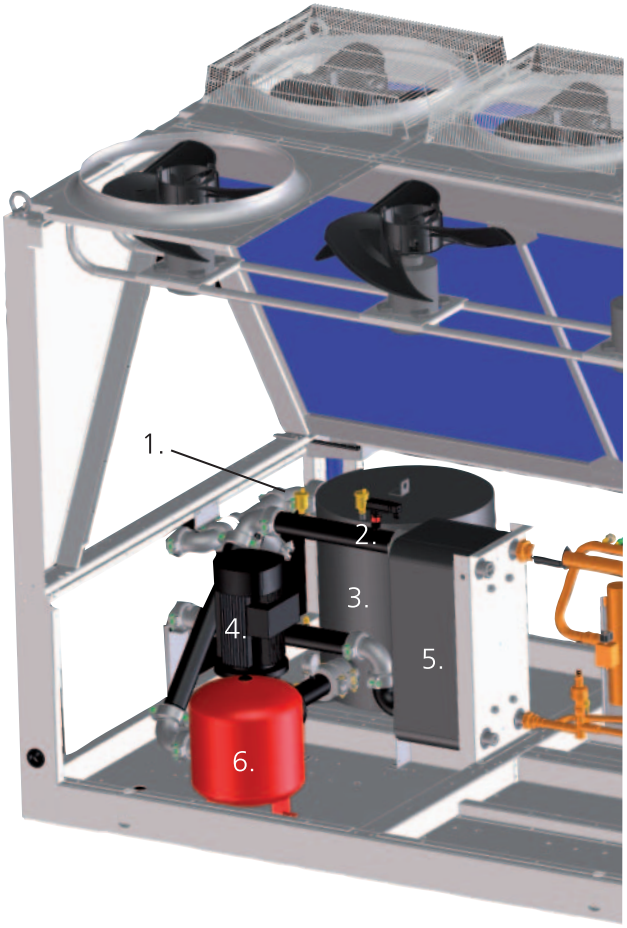
> **High ESP pump** (OPHP) – available ESP at nominal flow rate of 200kPa.

> **Twin pump** (OPTP) – twin pump motors with a single housing.

> **Built-in buffer tank** (OPBT) – includes a 200 litre buffer tank and is based on the OPSP or higher specification. The choice of this option substantially reduces chiller installation time.

> **Regulating valve** – included with pump options to enable the control of the water flow rate in the system.

> **Low temperature options**
- Low LWE down to -10°C (OPZL)
- Evaporator heater tape for low ambient climates (OP10)



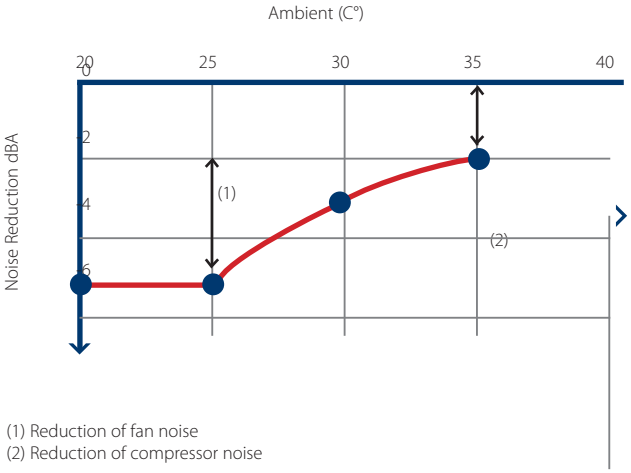
1. Air vent
2. Flow Switch
3. Buffer tank
4. Pump
5. Brased plate heat exchanger
6. Expansion vessel

Low operational sound level

Sound suppression is given high priority by Daikin.
For those particularly sound sensitive applications where the standard average sound level of 89 dBA does not offer the desired sound level, OPLN (option low noise) further reduces the operational sound level by 5 dBA. Particular attention has been given to any component that can generate sound or vibration.

Option low noise consists of compressor jackets, insulated cabinet and inverter fans.
Inverter fans offer a linear sound reduction in function of the ambient.

Inverter fans (OPIF):



(1) Reduction of fan noise
(2) Reduction of compressor noise

In addition, the inverter fans offer stable condensing pressure at low ambient temperatures, allowing more efficient partload operation of the unit.

Easy installation and maintenance

All hydronics can be accessed simply from three sides, while the separate switchbox is also easily accessible from the side of the unit, facilitating the maintenance of the chiller.

The compactness of the unit allows it to be easily transported and manoeuvred into its final position. Due to the integrated hydronic components, the chiller can be easily connected to the system.

High corrosion resistance

The robust all-weather chassis can stand up to demanding urban and industrial environments. The high-quality Daikin plate work consists of a galvanized steel plate with a zinc phosphate coating, and is epoxy powder painted. Condensers are standard PE treated, increasing resistance to acid rain and saline corrosion.

R-410A refrigerant

R-410A was the logical choice for the Daikin multiple scroll chiller because today it is one of the most promising refrigerants in terms of efficiency, stability and environmental impact.

R-410A offers a small swept volume, a good heat exchange capacity and leads to reduced component sizes of items such as heat exchangers and tubing.- Evaporator heater tape for low ambient climates (OP10)

Electronic Control

PC

BMS

BACnet
LONWORKS
MODBUS

Fire alarm

Power supply facility

Security

› Elevator
› Pump
› Lighting
› … Etc

intelligent Manager

touch intelligent Controller

OPEN NETWORK

BACnet®	(8 chillers)
LONWORKS®	(8 chillers)
MODBUS	(32 chillers)

Optional Gateway

(not necessary for Modbus)

DICN
Daikin Integrated Chiller Network

DIII-Net

Optional RS485 Network & F1/F2 address card

RS485 Network

F1/F2 F1/F2 F1/F2

Integration in building management systems

The PCASO control platform can be integrated into various Building Management Systems. An RS485 supervisiory network, more commonly known as MODBUS, can control up to 32 chillers. By using an optional gateway for either BACnet or LONWORKS, a maximum of 8 chillers per gateway can be controlled.

Protocols are:
- BACnet
- LONWORKS
- MODBUS

Communication with other Daikin units (DIII-Net)

For easy integration with Daikin DX products, the chillers can communicate via the F1/F2 terminals on DIII-net. In addition communication to Daikin D-BACS devices such as Intelligent Manager and I-Touch controller is possible.

New control platform

The Multiple Scroll Chiller incorporates the latest Daikin controller (PCAS0) with a new powerful LCD interface, offering accurate control of all functional parameters in an extremely user-friendly way.

Daikin integrated chiller network (DICN)

The Daikin in-house developed hardware and software offers the possibility of DICN functionality, allowing simultaneous operation of up to 4 chillers. By using the optional address card EKACPG (one per integrated chiller), the DICN enables you to operate a 1.1 megaWatt chiller from a single controller.

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1 Specifications

1-1 Technical Specifications				EWAQ080DAYN	EWAQ100DAYN	EWAQ130DAYN	EWAQ150DAYN	EWAQ180DAYN	EWAQ210DAYN	EWAQ240DAYN	EWAQ260DAYN
Capacity (Eurovent)	Cooling	Nominal	kW	80	105	131	152	182	209	236	254
Capacity Steps			%	0-50-100	0-50-100	0-25-50-75-100	0-25-50-75-100	21/29-43/50/57-71/79-100	0-25-50-75-100	22/28-40/50/56-72/78-100	0-25-50-75-100
Nominal input (Eurovent)	Cooling		kW	26.4	36.2	46.6	56.3	64.5	74.6	82.8	94.0
EER				3.03	2.90	2.81	2.70	2.82	2.80	2.85	2.70
ESEER				4.12	4.00	4.34	4.22	4.36	4.32	4.20	4.00
Casing	Colour			Ivory white/Munsell code 5Y7.5/1							
	Material			Polyester painted galvanised steel plate							
Dimensions	Unit	Height	mm	2,311	2,311	2311	2311	2311	2311	2311	2311
		Width	mm	2,000	2,000	2000	2000	2000	2000	2000	2000
		Depth	mm	2,566	2,566	2631	2631	3081	3081	4850	4850
Weight	Unit		kg	1,350	1,400	1500	1550	1800	1850	3150	3250
	Operating Weight		kg	1,365	1,415	1517	1569	1825	1877	3189	3292
	Gross weight		kg	1,400	1,450	1550	1600	1850	1900	3200	3300
Water Heat Exchanger	Type			Brazed plate							
	Filter	Type		Crépine galvanisée							
		Diameter perforations	mm	1	1	1	1	1	1	1	1
	Minimum water volume in the system		l	358	470	295	341	408	468	529	569
	Water flow rate	Min	l/min	115	151	188	218	261	300	339	364
		Max	l/min	459	602	754	871	1043	1198	1355	1456
	Nominal Water Flow	Cooling	l/min	229	301	377	436	522	599	677	728
Nominal water pressure drop	Cooling	Total	kPa	59	58	52	49	52	53	51	47
Water Heat Exchanger	Insulation material			Foamed synthetic elastomer							
	Model	Quantity		1	1	1	1	1	1	1	1
		Model		PT120	PT120	DV47	DV47	DV58	DV58	DV58	DV58
Air heat exchanger	Type			Cross fin coil / Hi-Xss tubes and PE coated							
	Rows			2	2	3	3	3	3	3	3
	Stages			56	56	48	56	56	56	48	48
	Fin Pitch		mm	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
	Face Area		m²	2.46	2.46	2.11	2.46	3.02	3.02	2.11	2.11
	No. of coils			4	4	4	4	4	4	8	8
Hydraulic components	Unit water volume		l	15	15	17	19	25	27	39	42
	Nominal water pressure drop unit	Cooling	kPa	66	67	64	63	72	79	83	85
Fan	Drive			Direct drive							
	Nominal air flow		m³/min	780	780	800	860	1290	1290	1600	1600
	Model	Quantity		4	4	4	4	6	6	8	8
		Speed	rpm	880	880	900	970	970	970	900	900
		Motor Output	W	500	500	600	1000	1000	1000	600	600
		Discharge direction		Vertical							
Compressor	Type			Scroll compressor							
	Refrigerant oil type			FVC68D							
	Refrigerant oil charge		l	6.7	6.7	3.3	6.7	6.7	6.7	6.7	6.7
	Model	Quantity		2	2	4	4	2	4	2	4
		Model		SJ180	SJ240	SJ161	SJ180	SJ180	SJ240	SJ240	SJ300
		Speed	rpm	2900	2900	2900	2900	2900	2900	2900	2900
		Quantity						2		2	
		Model				-		SJ240	-	SJ300	-
		Speed	rpm					2900		2900	
Sound level	Sound Power	Cooling	dBA	86	86	88	89	90	90	91	91
Refrigerant circuit	Refrigerant type			R-410A							
	Refrigerant charge		kg	33	33	19	25	29	28	39	39
			kg	-		19	25	29	28	39	39
	No of circuits			1	1	2	2	2	2	2	2
	Refrigerant control			Electronic expansion valve							

1 Specifications

1-1 Technical Specifications		EWAQ080DAYN	EWAQ100DAYN	EWAQ130DAYN	EWAQ150DAYN	EWAQ180DAYN	EWAQ210DAYN	EWAQ240DAYN	EWAQ260DAYN
Piping connections	Water heat exchanger inlet / outlet	3"OD	3"OD	3"OD	3"OD	3"OD	3"OD	3"	3"
	Water heat exchanger drain	1/2"G							
Safety Devices		High pressure switch							
		Pressure relief valve							
		Low pressure protection						Low pressure safety	
		Freeze up protection							
		Flowswitch							
		Discharge temperature protector							
		Reverse phase protector							
		Electronic protection module compressors (only for SJ180 SJ240)		Electronic protection module compressors (only for SJ180)		Electronic protection module compressors (only for SJ180 SJ240)		Electronic protection module compressors	
		Overcurrent relays for compressors and fans							
Notes		Nominal cooling capacity at Eurovent conditions: Evaporator 12°C/7°C; ambient 35°C							
		Nominal cooling power input at Eurovent conditions: Evaporator 12°C/7°C; ambient 35°C (=Power input compressors + fans + electrical circuit)							
		Minimum required watervolume for standard thermostat settings and at nominal conditions							

1-2 Electrical Specifications				EWAQ080DAYN	EWAQ100DAYN	EWAQ130DAYN	EWAQ150DAYN	EWAQ180DAYN	EWAQ210DAYN	EWAQ240DAYN	EWAQ260DAYN
Power Supply	Phase			3~							
	Frequency		Hz	50							
	Voltage		V	400							
	Voltage Tolerance	Minimum	%	-10%							
		Maximum	%	+10%							
Unit	Starting Current		A	201 (max 240)	221 (max 272)	161 (max. 269)	199 (max. 320)	221 (max. 357)	221 (max. 368)	266 (max. 426)	266 (max. 468)
	Nominal Running Current Cooling		A	60	72	88	113	131	144	162	181
	Maximum Running Current		A	96	120	160	177	209	233	262	290
	Recommended fuses according to IEC standard 269-2			3x125gL	3x160gL	3x200gL	3x200gL	3x250gL	3x250gL	3x300gL	3x355gL
Fan	Starting Method			Direct On-Line							
	Maximum Running Current		A	1,5	1,5	1,4	2,1	2,1	2,1	1,6	1,6
Compressor	Starting current		A	195	215	158	195	195/215	215	215/260	260
	Nominal running current (RLA)		A	25/25	31/31	19/19	25/25	25/31	31/31	31/40	40/40
	Maximum Running Current		A	39	51	35	39	39/51	51	51/65	65
	Starting Method			Direct on line							
Control Circuit	Phase			1~							
	Frequency		Hz	50							
	Voltage		V	230V (supplied by factory installed transformers)							
	Crankcase heater (E1/2HC)		W	2x75	2x75	4x65	4x75	4x75	4x75	75	75
Notes				Starting current of the unit = maximum running current 4 fans + starting current 1 compressor		Starting current of the unit = Maximum running current 2 fans (1 circuit) + starting current 1 compressor		Starting current of the unit = maximum running current 3 fans (1 circuit) + starting current 1 compressor		Initial starting current = maximum running current 4 fans + starting current 1 compressor	
				Maximum starting current = maximum running current 4 fans + maximum running current 1 compressor + starting current 1 compressor		Max. starting current of the unit = Maximum running current 4 fans + max. running current 3 compressors + starting current 1 compressor		Maximum starting current = maximum running current 6 fans + maximum running current 3 compressors + starting current 1 compressor		Maximum starting current = maximum running current 8 fans + maximum running current 3 compressors + starting current 1 compressor	

1 Specifications (Options)

EWAQ080-100DAYN

Technical specifications options				
OPSP				
Units			**EWAQ080DAYN***	**EWAQ100DAYN***
WEIGHT	Additional machine weight	kg	250	250
	Additional operation weight	kg	283	283
	Additional gross weight	kg	250	250
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP50-240/2	TP50-240/2
	Nominal Static Height Unit cooling	kPa	142	133
HYDRAULIC COMPONENTS	Additional unit water volume	l	33	33
	Expansion vessel	l	35	
	Pre-charge pressure exp. vessel	bar	1,5	
	Safety valve	bar	3	
OPSP + OPBT				
Units			**EWAQ080DAYN***	**EWAQ100DAYN***
WEIGHT	Additional machine weight	kg	300	300
	Additional operation weight	kg	523	523
	Additional gross weight	kg	300	300
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP50-240/2	TP50-240/2
	Nominal Static Height Unit cooling	kPa	142	133
HYDRAULIC COMPONENTS	Buffertank	l	190	190
	Additional unit water volume	l	223	223
	Expansion vessel	l	35	
	Pre-charge pressure exp. vessel	bar	1,5	
	Safety valve	bar	3	
OPHP				
Units			**EWAQ080DAYN***	**EWAQ100DAYN***
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP50-430/2	TP50-430/2
	Nominal Static Height Unit	kPa	337	322
OPTP				
Units			**EWAQ080DAYN***	**EWAQ100DAYN***
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP50-240/2	TP50-240/2
	Nominal Static Height Unit cooling	kPa	142	133

3TW57571-1D

EWAQ080-100DAYN

Electrical specifications options				
OPSP / OPTP				
Units			**EWAQ080DAYN***	**EWAQ100DAYN***
STD PUMP	Starting method		Direct On-Line	
	Power	W	2.2kW	2.2kW
	Maximum running current	A	4,5	4,5
	Starting current	A	42	42
OPHP				
Units			**EWAQ080DAYN***	**EWAQ100DAYN***
HIGH ESP PUMP	Starting method		Direct On-Line	
	Power	W	5.5kW	5.5kW
	Maximum running current	A	11,2	11,2
	Starting current	A	131	131
OP10				
Units			**EWAQ080DAYN***	**EWAQ100DAYN***
HEATER TAPE	Supply Voltage	V	230+/-10%	
	Recommended fuses	A	2 x 10A	
	Power standard model		1 x 300 W	1 x 300 W
	Power model with pump		2 x 300 W	2 x 300 W
	Power model with pump and buffertank		2 x 300 W + 1 x 150 W	2 x 300 W + 1 x 150 W

3TW57571-1D

NOTES

1 Initial starting current=Maximum running current 4 fans (1 circuit) + starting current 1 compressor

2 Maximum starting current=Maximum running current 4 fans+Maximum running current 3 compressors+Starting current 1 compressor

1 Specifications (Options)

EWAQ130-150DAYN

Technical specifications options				
OPSP / OPTP				
Units			**EWAQ130DAYN***	**EWAQ150DAYN***
WEIGHT	Additional machine weight	kg	250	250
	Additional operation weight	kg	286	286
	Additional gross weight	kg	250	250
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-230/2	TP65-230/2
	Nominal Static Height Unit cooling	kPa	134	126
HYDRAULIC COMPONENTS	Additional unit water volume	l	36	36
	Expansion vessel	l	35	
	Pre-charge pressure exp. vessel	bar	1,5	
	Safety valve	bar	3	
OPSP + OPBT				
Units			**EWAQ130DAYN***	**EWAQ150DAYN***
WEIGHT	Additional machine weight	kg	300	300
	Additional operation weight	kg	526	526
	Additional gross weight	kg	300	300
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-230/2	TP65-230/2
	Nominal Static Height Unit cooling	kPa	134	126
HYDRAULIC COMPONENTS	Buffertank	l	190	190
	Additional unit water volume	l	226	226
	Expansion vessel	l	35	
	Pre-charge pressure exp. vessel	bar	1,5	
	Safety valve	bar	3	
OPHP				
Units			**EWAQ130DAYN***	**EWAQ150DAYN***
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-340/2	TP65-340/2
	Nominal Static Height Unit	kPa	253	248
OPTP				
Units			**EWAQ130DAYN***	**EWAQ150DAYN***
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-230/2	TP65-230/2
	Nominal Static Height Unit cooling	kPa	134	126

3TW57591-1C

EWAQ130-150DAYN

Electrical specifications options				
OPSP / OPTP				
Units			**EWAQ130DAYN***	**EWAQ150DAYN***
STD PUMP	Starting method		Direct On-Line	
	Power	W	3kW	3kW
	Maximum running current	A	6.3	6.3
	Starting current	A	58	58
OPHP				
Units			**EWAQ130DAYN***	**EWAQ150DAYN***
HIGH ESP PUMP	Starting method		Direct On-Line	
	Power	W	5.5kW	5.5kW
	Maximum running current	A	11.2	11.2
	Starting current	A	131	131
OP10				
Units			**EWAQ130DAYN***	**EWAQ150DAYN***
HEATER TAPE	Supply Voltage	V	230+/-10%	
	Recommended fuses	A	2 x 10A	
	Power standard model		1 x 300 W	1 x 300 W
	Power model with pump		2 x 300 W	2 x 300 W
	Power model with pump and buffertank		2 x 300 W + 1 x 150 W	2 x 300 W + 1 x 150 W

3TW57591-1C

NOTES

1 Initial starting current=Maximum running current 2 fans (1 circuit) + starting current 1 compressor

2 Maximum starting current=Maximum running current 4 fans+Maximum running current 3 compressors+Starting current 1 compressor

1 Specifications (Options)

EWAQ180-210DAYN

Technical specifications options				
OPSP				
Units			**EWAQ180DAYN***	**EWAQ210DAYN***
WEIGHT	Additional machine weight	kg	250	250
	Additional operation weight	kg	286	286
	Additional gross weight	kg	250	250
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-260/2	TP65-260/2
	Nominal Static Height Unit cooling	kPa	142	120
HYDRAULIC COMPONENTS	Additional unit water volume	l	36	36
	Expansion vessel	l	35	
	Pre-charge pressure exp. vessel	bar	1,5	
	Safety valve	bar	3	
OPSP + OPBT				
Units			**EWAQ180DAYN***	**EWAQ210DAYN***
WEIGHT	Additional machine weight	kg	300	300
	Additional operation weight	kg	526	526
	Additional gross weight	kg	300	300
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-260/2	TP65-260/2
	Nominal Static Height Unit cooling	kPa	142	120
HYDRAULIC COMPONENTS	Buffertank	l	190	190
	Additional unit water volume	l	226	226
	Expansion vessel	l	35	
	Pre-charge pressure exp. vessel	bar	1,5	
	Safety valve	bar	3	
OPHP				
Units			**EWAQ180DAYN***	**EWAQ210DAYN***
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-410/2	TP65-410/2
	Nominal Static Height Unit	kPa	296	278
OPTP				
Units			**EWAQ180DAYN***	**EWAQ210DAYN***
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-260/2	TP65-260/2
	Nominal Static Height Unit cooling	kPa	142	120

3TW57611-1C

EWAQ180-210DAYN

Electrical specifications options				
OPSP / OPTP				
Units			**EWAQ180DAYN***	**EWAQ210DAYN***
STD PUMP	Starting method		Direct On-Line	
	Power	W	4kW	4kW
	Maximum running current	A	8	8
	Starting current	A	98	98
OPHP				
Units			**EWAQ180DAYN***	**EWAQ210DAYN***
HIGH ESP PUMP	Starting method		Direct On-Line	
	Power	W	7.5kW	7.5kW
	Maximum running current	A	15.2	15.2
	Starting current	A	169	169
OP10				
Units			**EWAQ180DAYN***	**EWAQ210DAYN***
HEATER TAPE	Supply Voltage	V	230+/-10%	
	Recommended fuses	A	2 x 10A	
	Power standard model		1 x 300 W	1 x 300 W
	Power model with pump		2 x 300 W	2 x 300 W
	Power model with pump and buffertank		2 x 300 W + 1 x 150 W	2 x 300 W + 1 x 150 W

3TW57611-1C

NOTES

1 Initial starting current=Maximum running current 3 fans (1 circuit) + starting current 1 compressor

2 Maximum starting current=Maximum running current 6 fans+Maximum running current 3 compressors+Starting current 1 compressor

1 Specifications (Options)

EWAQ240-260DAYN

Technical specifications options				
OPSP				
Units			**EWAQ240DAYN***	**EWAQ260DAYN***
WEIGHT	Additional machine weight	kg	250	250
	Additional operation weight	kg	271	271
	Additional gross weight	kg	250	250
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-260/2	TP65-260/2
	Nominal Static Height Unit cooling	kPa	126	117
HYDRAULIC COMPONENTS	Additional unit water volume	l	21	21
	Expansion vessel	l	50	
	Pre-charge pressure exp. vessel	bar	1,5	
	Safety valve	bar	3	
OPSP + OPBT				
Units			**EWAQ240DAYN***	**EWAQ260DAYN***
WEIGHT	Additional machine weight	kg	300	300
	Additional operation weight	kg	511	511
	Additional gross weight	kg	300	300
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-260/2	TP65-260/2
	Nominal Static Height Unit cooling	kPa	126	117
HYDRAULIC COMPONENTS	Buffertank	l	190	190
	Additional unit water volume	l	211	211
	Expansion vessel	l	50	
	Pre-charge pressure exp. vessel	bar	1,5	
	Safety valve	bar	3	
OPHP				
Units			**EWAQ240DAYN***	**EWAQ260DAYN***
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-410/2	TP65-410/2
	Nominal Static Height Unit	kPa	288	280
OPTP				
Units			**EWAQ240DAYN***	**EWAQ260DAYN***
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-260/2	TP65-260/2
	Nominal Static Height Unit cooling	kPa	126	117

3TW57631-1B

EWAQ240-260DAYN

Electrical specifications options				
OPSP / OPTP				
Units			**EWAQ240DAYN***	**EWAQ260DAYN***
STD PUMP	Starting method		Direct On-Line	
	Power	kW	4.0	4.0
	Maximum running current	A	8.0	8.0
	Starting current	A	98	98
OPHP				
Units			**EWAQ240DAYN***	**EWAQ260DAYN***
HIGH ESP PUMP	Starting method		Direct On-Line	
	Power	W	7.5	7.5
	Maximum running current	A	15.2	15.2
	Starting current	A	169	169
OP10				
Units			**EWAQ240DAYN***	**EWAQ260DAYN***
HEATER TAPE	Supply Voltage	V	230+/-10%	
	Recommended fuses	A	2 x 10A	
	Power standard model		1 x 300 W	1 x 300 W
	Power model with pump		2 x 300 W	2 x 300 W
	Power model with pump and buffertank		2 x 300 W + 1 x 150 W	2 x 300 W + 1 x 150 W

3TW57631-1B

NOTES

1 Initial starting current=Maximum running current 4 fans (1 circuit) + starting current 1 compressor

2 Maximum starting current=Maximum running current 8 fans+Maximum running current 3 compressors+Starting current 1 compressor

2 Options

Optional equipment for EWAQ-DAYN

Capacity: 080-260 kW

EWAQ080DAYNN EWAQ150DAYNN EWAQ240DAYNN
EWAQ100DAYNN EWAQ180DAYNN EWAQ260DAYNN
EWAQ130DAYNN EWAQ210DAYNN

Option number	Option description	Unit size								Availability
		080	100	130	150	180	210	240	260	
	Standard unit	o	o	o	o	o	o	o	o	
OPSC	Single pump contactor	o	o	o	o	o	o	o	o	Factory mounted
OPTC	Twin pump contactor	o	o	o	o	o	o	o	o	Factory mounted
OPSP	Single pump	o	o	o	o	o	o	o	o	Factory mounted
OPTP	Twin pump (1 pump house, dual motor)	o	o	o	o	o	o	o	o	Factory mounted
OPHP	high ESP pump (single pump only)	o	o	o	o	o	o	o	o	Factory mounted
OPBT	Buffer tank	o	o	o	o	o	o	o	o	Factory mounted
OPIF	Inverter fans for low ambient (-15 °C)	o	o	o	o	o	o	o	o	Factory mounted
OPZL	Glycol 0°C/-10°C	o	o	o	o	o	o	o	o	Factory mounted
OP03	Dual pressure relief valve	o	o	o	o	o	o	o	o	Factory mounted
OP10	evaporator heater tape	o	o	o	o	o	o	o	o	Factory mounted
OP12	option valves (discharge-, liquid line- and suction stop valve)	o (S)	o (S)	o (S)	o (S)	o (S)	o (S)	o (S)	o (S)	Factory mounted
OP57	A-meter, V-meter	o	o	o	o	o	o	o	o	Factory mounted
OPLN	Low noise = OPIF + compressorhousing	o	o	o	o	o	o	o	o	Factory mounted
OPCG	Condenser protection grilles	o	o	o	o	o	o	o	o	Factory mounted
	Available kits									
EKLONPG	Gateway for LON*	o	o	o	o	o	o	o	o	Kit
EKBNPG	Gateway for BACNET*	o	o	o	o	o	o	o	o	Kit
EKACPG	Adress card including	o	o	o	o	o	o	o	o	Kit
	Daikin Integrated Chiller Network (DICN)									
	Serial Communication (Modbus)									
EKRUPG	Remote user interface	o	o	o	o	o	o	o	o	Kit
EKGN210	Waterpipe kit	o	o	o	o	o	o	-	-	Kit
EKGN260	Waterpipe kit	-	-	-	-	-	-	o	o	Kit

Notes

o Available

\- Not available

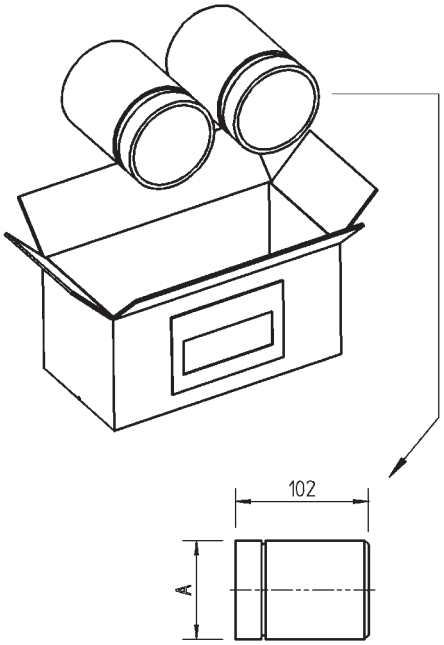
(S) option required for swedish national law SNFS1992:16

* To install EKLONPG & EKBNPG => EKACPG needs to be installed on the unit.
For the EKLONPG & EKBNPG design guide, please contact your local dealer.

3TW57579-8B

2 Options

Content :2 counterpipes for welding onto fieldpiping



	Weight
EKGN210	2.0 kg
EKGN260	2.5 kg

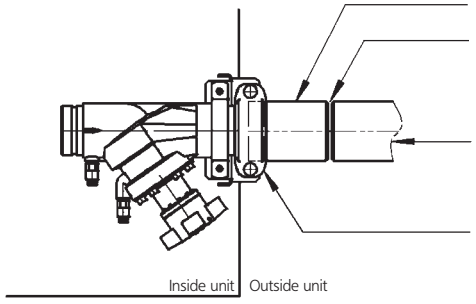
Box : 200 x 100 x 100

* Material : Blank steel
* Ps = 10 bar

	Ø	A
EKGN210	3" OD	76.1
EKGN260	3"	88.9

EWA/YQ080DAYN*	3" OD
EWA/YQ100DAYN*	
EWA/YQ130DAYN*	
EWA/YQ150DAYN*	
EWA/YQ180DAYN*	
EWA/YQ210DAYN*	
EWAQ240DAYN*	3"
EWAQ260DAYN*	
EWYQ230DAYN*	
EWYQ250DAYN*	

Mounting instructions :



Counterpipe : in this kit

Weld before connection victaulic coupling

To be painted after welding

Fieldpiping

Victaulic coupling : delivered with unit

4TW58009-1

3 Capacity tables

3 - 1 Cooling capacity tables

EWAQ080-260DAYN(N-P-B)

STANDARD

Tamb (°C)		20		25		30		35		40		43	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
4	080	83.6	20.3	79.9	22.0	76.2	23.9	72.2	26.1	67.9	28.5	65.2	30.2
	100	110	27.0	105	29.5	100	32.3	94.9	35.5	89.0	39.0	85.2	41.4
	130	138	34.8	132	38.0	126	41.5	119	45.5	111	49.9	106	52.9
	150	164	42.2	156	46.1	147	50.5	138	55.4	128	60.9	122	64.5
	180	191	48.5	183	52.9	174	57.9	164	63.4	154	69.7	148	73.8
	210	225	56.8	214	61.4	203	66.6	191	73.1	178	80.4	169	85.2
	240	252	62.4	240	68.0	228	74.3	215	81.3	201	89.1	191	94.3
	260	267	71.3	256	77.6	244	84.6	230	92.3	215	101	206	107
7	080	92.3	20.6	88.4	22.3	84.4	24.3	80.0	26.4	75.3	28.9	72.3	30.5
	100	122	27.7	117	30.2	111	33.0	105	36.2	98.4	39.7	94.2	42.1
	130	153	35.8	146	39.1	139	42.6	131	46.6	123	51.0	117	54.0
	150	180	43.2	171	47.1	162	51.5	152	56.3	141	62.0	134	65.6
	180	211	49.5	202	54.0	192	58.9	182	64.5	171	70.8	163	74.9
	210	246	58.2	234	62.8	222	68.0	209	74.6	195	81.9	186	86.7
	240	276	63.7	264	69.4	251	75.7	236	82.8	220	90.7	210	95.9
	260	295	72.7	282	79.1	269	86.2	254	94.0	237	103	227	108
10	080	102	20.9	97.6	22.7	93.2	24.6	88.4	26.8	83.3	29.3	80.0	30.9
	100	134	28.5	128	31.0	122	33.8	116	36.9	108	40.5	104	42.8
	130	168	36.9	161	40.2	153	43.8	144	47.8	135	52.2	129	55.2
	150	198	44.3	188	48.3	178	52.7	167	57.7	155	63.3	147	66.9
	180	233	50.7	223	55.1	212	60.1	201	65.7	188	72.0	180	76.1
	210	269	59.8	256	64.4	243	69.6	228	76.2	213	83.5	203	88.3
	240	303	65.3	289	71.0	275	77.3	259	84.5	241	92.4	230	97.6
	260	325	74.3	311	80.8	296	87.9	279	95.9	261	105	249	110
13	080	112	21.3	108	23.1	103	25.1	97.5	27.3	91.8	29.7	88.2	31.3
	100	147	29.4	141	31.8	134	34.6	127	37.8	119	41.3	114	43.6
	130	185	38.1	177	41.5	168	45.1	158	49.0	148	53.5	141	56.5
	150	216	45.4	206	49.5	194	54.1	182	59.1	169	64.7	161	68.4
	180	256	52.0	245	56.4	233	61.4	221	67.0	207	73.3	198	77.5
	210	293	61.7	279	66.2	265	71.4	249	77.9	232	85.3	221	90.1
	240	331	67.0	317	72.7	300	79.1	283	86.3	264	94.2	252	99.4
	260	356	76.1	341	82.6	325	89.8	306	97.8	286	107	273	112
16	080	123	21.7	118	23.5	113	25.5	107	27.7	101	30.2	96.9	31.8
	100	161	30.4	154	32.8	147	35.5	139	38.7	130	42.2	125	44.5
	130	203	39.4	193	42.7	184	46.4	173	50.4	161	54.9	154	57.9
	150	235	46.7	224	50.9	211	55.5	198	60.6	184	66.3	96	32.4
	180	281	53.4	269	57.9	256	62.9	242	68.5	227	74.8	217	79.0
	210	318	63.7	304	68.2	288	73.3	271	79.9	252	87.2	241	92.0
	240	362	68.9	345	74.7	328	81.1	309	88.3	288	96.2	275	101.4
	260	390	78.0	373	84.6	355	91.9	335	99.9	313	109	299	115
20	080	139	22.4	133	24.2	127	26.2	121	28.5	114	30.9	59.8	15.1
	100	180	31.8	173	34.2	164	36.9	155	40.0	146	43.5	76.5	21.3
	130	227	41.1	217	44.5	206	48.3	193	52.3	180	56.9	94.2	27.8
	150	262	48.6	249	52.9	235	57.7	220	62.9	204	68.6	106	33.5
	180	315	55.6	302	60.1	287	65.1	271	70.7	254	77.1	133	37.7
	210	354	66.7	338	71.2	320	76.2	301	82.8	281	90.1	147	44.0
	240	405	71.8	386	77.6	366	84.0	345	91.2	322	99.2	168	48.5
	260	438	80.8	419	87.5	398	94.9	375	103	350	112	183	54.7

SYMBOLS

CC: Cooling Capacity (kW)
PI: Power Input (kW)
LWE: Leaving Water Evaporator (°C)
Tamb: Ambient temperature (°C)

NOTES

1 **Cooling capacity (kW)**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3 - 8°C

2 **Power input (kW)**
Power input is total input according to Eurovent rating standard 6/C/003-2006: Compressor + fans + control circuit

3 **For units with integrated pump**
values for CC are to be multiplied by 0.99 in order to compensate heat input of the pump

4 **Additional ESP can be added to the fans discharge**

The following impact on the performance has to be considered

ESP (Pa)	CC %	PI %
25	99	101
50	98	103
75	96	105

3TW57572-1D

3 Capacity tables

3 - 1 Cooling capacity tables

EWAQ080-260DAYN(N-P-B)

OPZL

Tamb (°C)		20		25		30		35		40		43	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-10	080	52.8	19.2	49.7	21.0	46.7	23.0	43.8	25.2	40.7	27.8		
	100	67.7	24.8	64.3	27.3	60.9	30.0	57.3	33.0	53.6	36.4		
	130	88.1	31.0	83.8	34.1	79.4	37.6	74.6	41.6	69.5	46.1		
	150	100	38.7	93.6	42.6	87.7	46.9	81.8	51.8	75.6	57.4		
	180	117	45.2	111	49.6	105	54.4	98.2	59.9	91.6	66.1		
	210	143	51.9	136	56.5	128	61.5	120	67.7	111	74.7		
	240	163	57.7	155	63.0	146	69.0	137	75.7	127	83.2		
	260	170	66.1	162	72.0	153	78.6	144	86.0	134	94		
-7	080	58.0	19.4	54.9	21.2	51.9	23.1	48.8	25.3	45.6	27.8		
	100	75.2	25.2	71.6	27.7	67.9	30.4	64.0	33.5	59.9	36.9		
	130	96.7	31.6	92.2	34.8	87.5	38.3	82.4	42.2	76.9	46.8		
	150	111	39.3	105	43.1	99.0	47.4	92.5	52.3	85.8	57.8		
	180	130	45.7	123	50.1	117	55.0	110	60.5	103	66.7		
	210	158	52.7	150	57.3	142	62.4	133	68.8	124	75.8		
	240	179	58.5	170	63.9	161	70.0	151	76.8	141	84.4		
	260	187	67.1	178	73.0	169	79.7	160	87.2	149	96		
-5	080	61.9	19.5	58.8	21.3	55.7	23.2	52.5	25.4	49.1	27.9	47.0	29.5
	100	80.6	25.4	76.8	27.9	73.0	30.7	68.9	33.8	64.5	37.3	61.7	39.6
	130	103	32.1	98.3	35.3	93.4	38.8	88.1	42.7	82.3	47.2	78.5	50.3
	150	133	39.7	113	43.5	107	47.8	100	52.7	92.9	58.2	88.3	61.8
	180	140	46.1	133	50.5	126	55.4	119	60.9	111	67.1	106	71.2
	210	169	53.3	161	58.0	152	63.1	142	69.5	132	76.6	126	81.3
	240	190	59.1	181	64.6	172	70.7	161	77.5	150	85.2	143	90.2
	260	199	67.7	190	73.7	181	80.5	171	88.0	159	96	152	102
-2	080	68.4	19.7	65.1	21.5	61.8	23.4	58.4	25.6	54.8	28.1	52.6	29.7
	100	89.6	25.9	85.5	28.4	81.3	31.2	76.8	34.3	72.0	37.8	68.9	40.1
	130	113	32.9	108	36.1	103	39.6	97.3	43.5	91.0	48.0	86.9	51.0
	150	133	40.4	127	44.3	119	48.5	112	53.4	104	58.9	99.0	62.5
	180	155	46.8	148	51.2	140	56.1	133	61.7	124	67.9	119	72.0
	210	186	54.3	177	59.0	167	64.1	157	70.6	146	77.8	140	82.5
	240	209	60.0	199	65.6	189	71.8	178	78.7	166	86.4	158	91.5
	260	219	68.8	210	74.9	200	81.7	189	89.3	176	98	168	103
2	080	78.1	20.1	74.7	21.8	71.1	23.8	67.3	25.9	63.3	28.4	60.8	30.0
	100	103	26.6	98.4	29.1	93.6	31.9	88.5	35.1	83.0	38.6	79.5	40.9
	130	129	34.1	124	37.3	118	40.8	111	44.8	104	49.2	99.3	52.2
	150	153	41.5	145	45.4	138	49.7	129	54.5	120	60.0	114	63.7
	180	178	47.9	170	52.3	162	57.2	153	62.8	144	69.0	137	73.1
	210	211	55.9	201	60.5	190	65.7	179	72.2	167	79.5	159	84.3
	240	236	61.5	226	67.1	214	73.4	202	80.4	188	88.2	180	93.3
	260	250	70.4	240	76.6	228	83.5	216	91.3	202	100	192	106

SYMBOLS

CC: Cooling Capacity (kW)
PI: Power Input (kW)
LWE: Leaving Water Evaporator (°C)
Tamb:Ambient temperature (°C)

NOTES

1 **Cooling capacity (kW)**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for chilled water range Dt = 3 - 8°C

2 **Power input (kW)**
Power input is total input according to Eurovent rating standard 6/C/003-2006: Compressor + fans + control circuit

3 **For units with integrated pump**
values for CC are to be multiplied by 0.99 in order to compensate heat input of the pump

4 **Usage of glycol and other anti-freeze**
Correction factors for CC and PI are applicable according type and concentration of the used anti-freeze

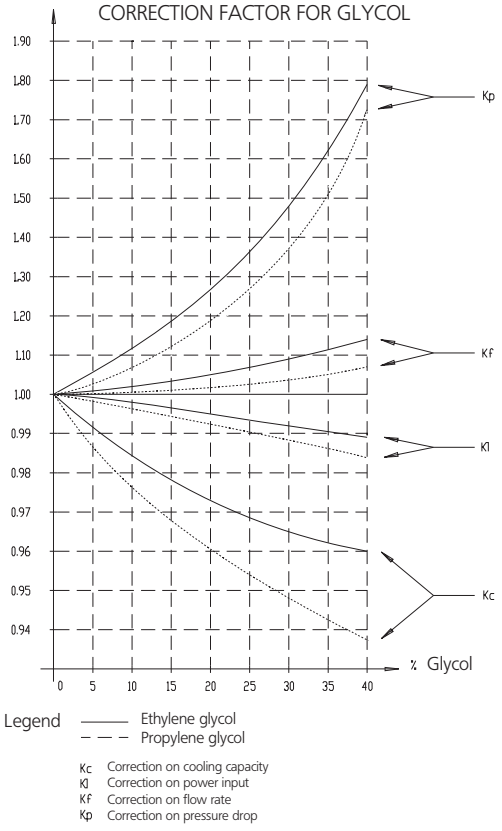
3TW57572-1D

3 Capacity tables

3 - 2 Capacity correction factor

Required glycol concentration

Type	Concentration (wt%)	0	10	20	30	40
Ethylene glycol	Freezing point °C	0	-4	-9	-16	-23
	Minimum LWE °C	4	2	0	-5	-11
Propylene glycol	Freezing point °C	0	-3	-7	-13	-22
	Minimum LWE °C	4	3	-2	-4	-10



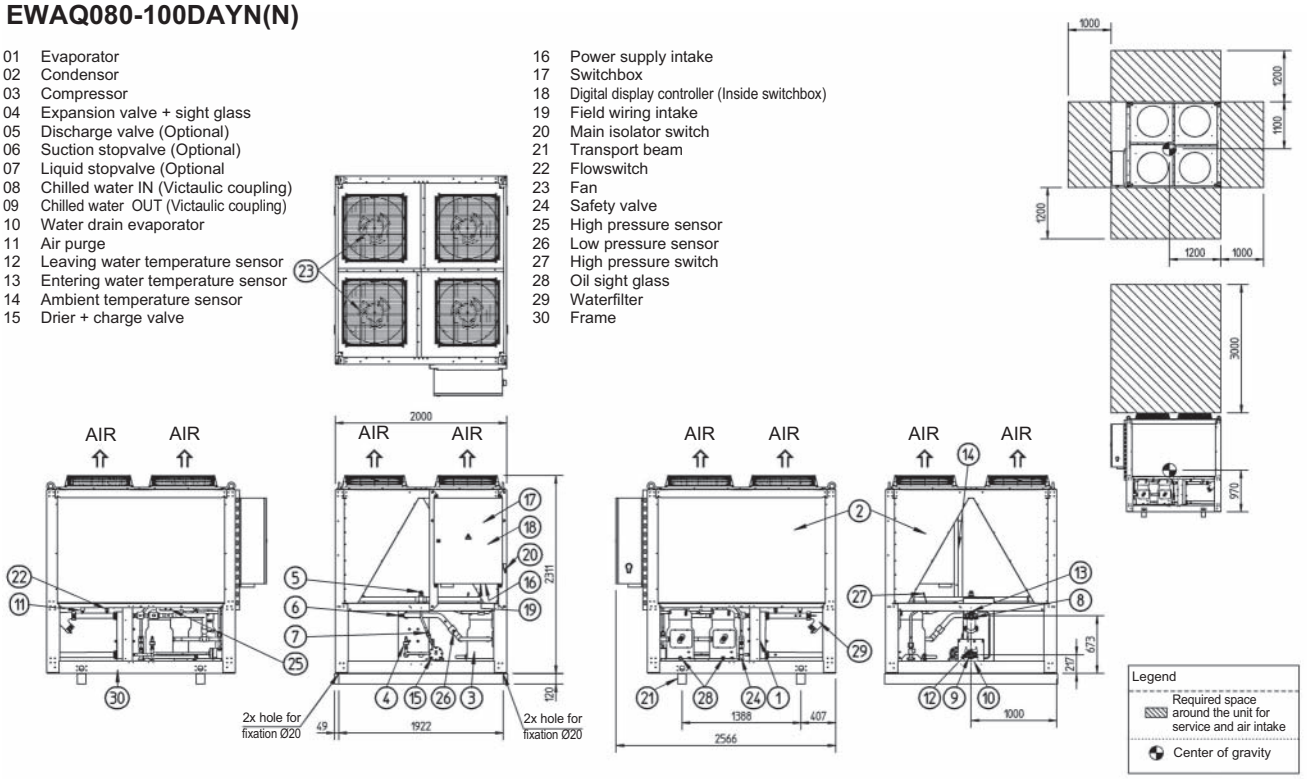
4TW50689-8

4 Dimensional drawing

4 - 1 Dimensional drawing

EWAQ080-100DAYN(N)

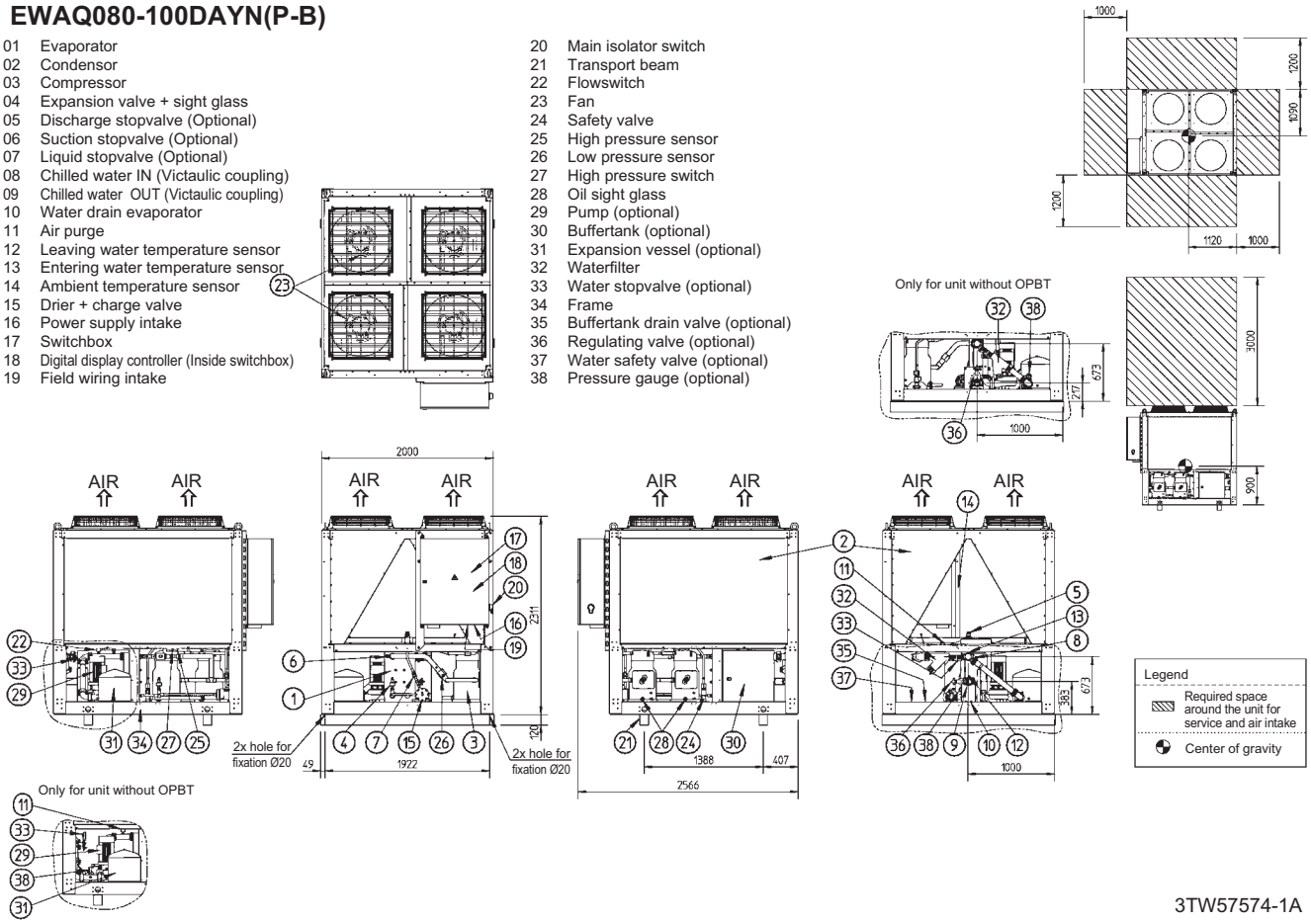
01 Evaporator
02 Condensor
03 Compressor
04 Expansion valve + sight glass
05 Discharge valve (Optional)
06 Suction stopvalve (Optional)
07 Liquid stopvalve (Optional
08 Chilled water IN (Victaulic coupling)
09 Chilled water OUT (Victaulic coupling)
10 Water drain evaporator
11 Air purge
12 Leaving water temperature sensor
13 Entering water temperature sensor
14 Ambient temperature sensor
15 Drier + charge valve
16 Power supply intake
17 Switchbox
18 Digital display controller (Inside switchbox)
19 Field wiring intake
20 Main isolator switch
21 Transport beam
22 Flowswitch
23 Fan
24 Safety valve
25 High pressure sensor
26 Low pressure sensor
27 High pressure switch
28 Oil sight glass
29 Waterfilter
30 Frame



3TW57574-2A

EWAQ080-100DAYN(P-B)

01 Evaporator
02 Condensor
03 Compressor
04 Expansion valve + sight glass
05 Discharge stopvalve (Optional)
06 Suction stopvalve (Optional)
07 Liquid stopvalve (Optional)
08 Chilled water IN (Victaulic coupling)
09 Chilled water OUT (Victaulic coupling)
10 Water drain evaporator
11 Air purge
12 Leaving water temperature sensor
13 Entering water temperature sensor
14 Ambient temperature sensor
15 Drier + charge valve
16 Power supply intake
17 Switchbox
18 Digital display controller (Inside switchbox)
19 Field wiring intake
20 Main isolator switch
21 Transport beam
22 Flowswitch
23 Fan
24 Safety valve
25 High pressure sensor
26 Low pressure sensor
27 High pressure switch
28 Oil sight glass
29 Pump (optional)
30 Buffertank (optional)
31 Expansion vessel (optional)
32 Waterfilter
33 Water stopvalve (optional)
34 Frame
35 Buffertank drain valve (optional)
36 Regulating valve (optional)
37 Water safety valve (optional)
38 Pressure gauge (optional)



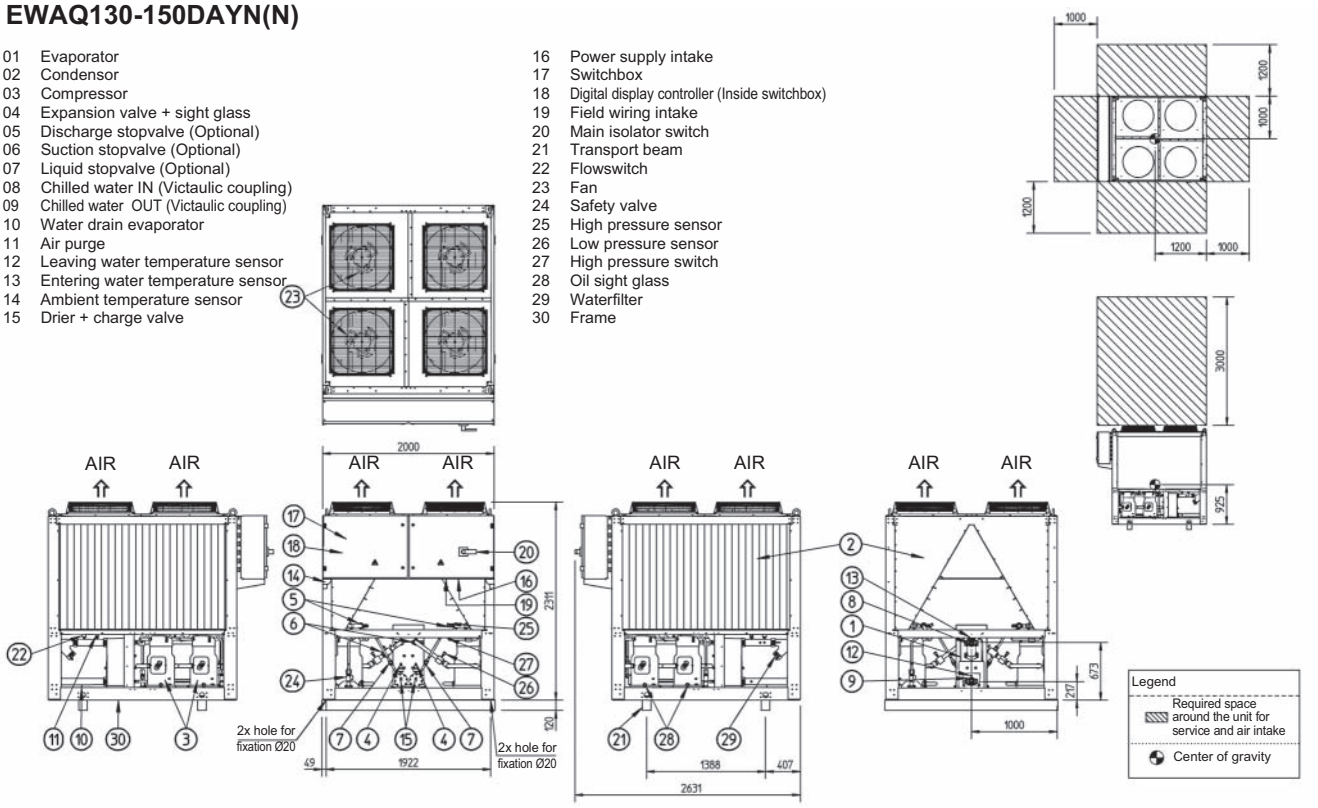
3TW57574-1A

4 Dimensional drawing

4 - 1 Dimensional drawing

EWAQ130-150DAYN(N)

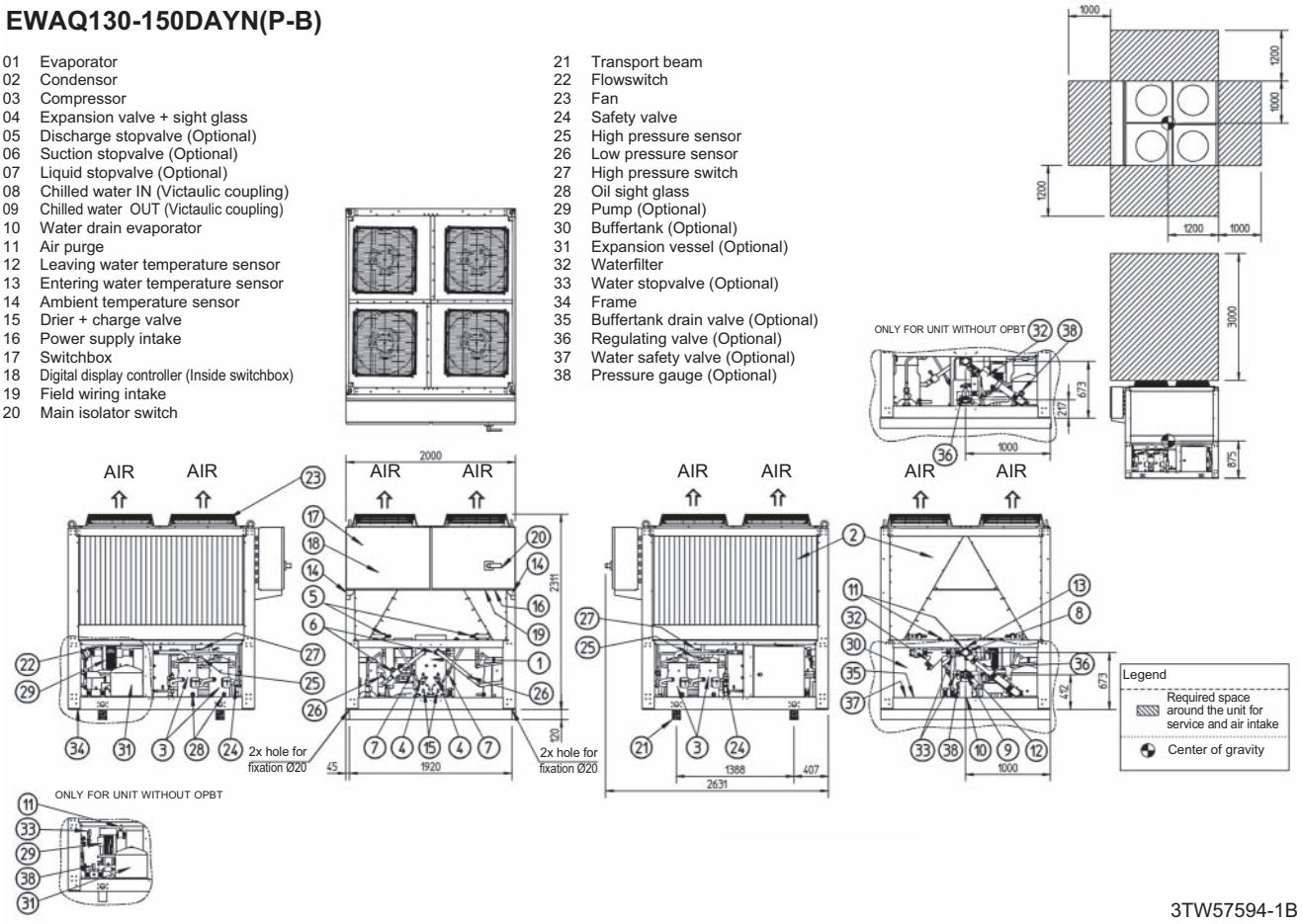
01 Evaporator
02 Condensor
03 Compressor
04 Expansion valve + sight glass
05 Discharge stopvalve (Optional)
06 Suction stopvalve (Optional)
07 Liquid stopvalve (Optional)
08 Chilled water IN (Victaulic coupling)
09 Chilled water OUT (Victaulic coupling)
10 Water drain evaporator
11 Air purge
12 Leaving water temperature sensor
13 Entering water temperature sensor
14 Ambient temperature sensor
15 Drier + charge valve
16 Power supply intake
17 Switchbox
18 Digital display controller (Inside switchbox)
19 Field wiring intake
20 Main isolator switch
21 Transport beam
22 Flowswitch
23 Fan
24 Safety valve
25 High pressure sensor
26 Low pressure sensor
27 High pressure switch
28 Oil sight glass
29 Waterfilter
30 Frame



3TW57594-2A

EWAQ130-150DAYN(P-B)

01 Evaporator
02 Condensor
03 Compressor
04 Expansion valve + sight glass
05 Discharge stopvalve (Optional)
06 Suction stopvalve (Optional)
07 Liquid stopvalve (Optional)
08 Chilled water IN (Victaulic coupling)
09 Chilled water OUT (Victaulic coupling)
10 Water drain evaporator
11 Air purge
12 Leaving water temperature sensor
13 Entering water temperature sensor
14 Ambient temperature sensor
15 Drier + charge valve
16 Power supply intake
17 Switchbox
18 Digital display controller (Inside switchbox)
19 Field wiring intake
20 Main isolator switch
21 Transport beam
22 Flowswitch
23 Fan
24 Safety valve
25 High pressure sensor
26 Low pressure sensor
27 High pressure switch
28 Oil sight glass
29 Pump (Optional)
30 Buffertank (Optional)
31 Expansion vessel (Optional)
32 Waterfilter
33 Water stopvalve (Optional)
34 Frame
35 Buffertank drain valve (Optional)
36 Regulating valve (Optional)
37 Water safety valve (Optional)
38 Pressure gauge (Optional)



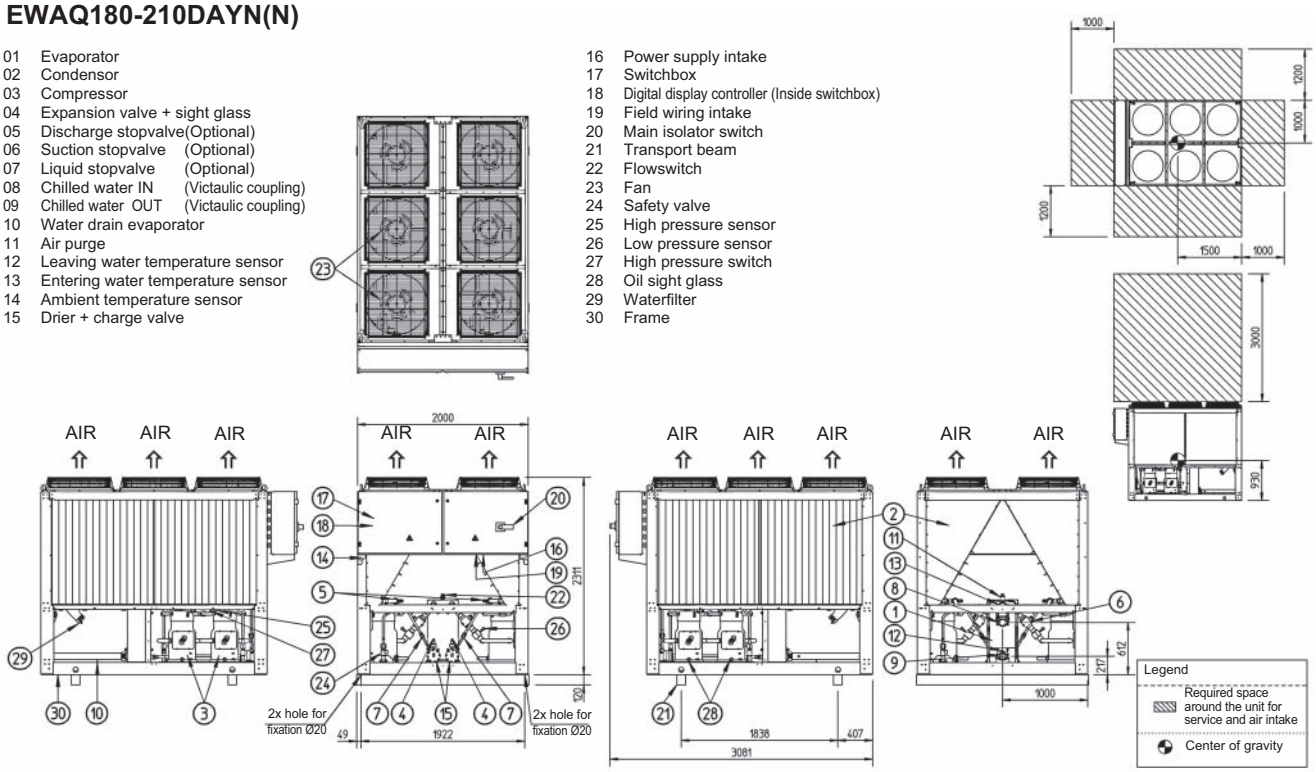
3TW57594-1B

4 Dimensional drawing

4 - 1 Dimensional drawing

EWAQ180-210DAYN(N)

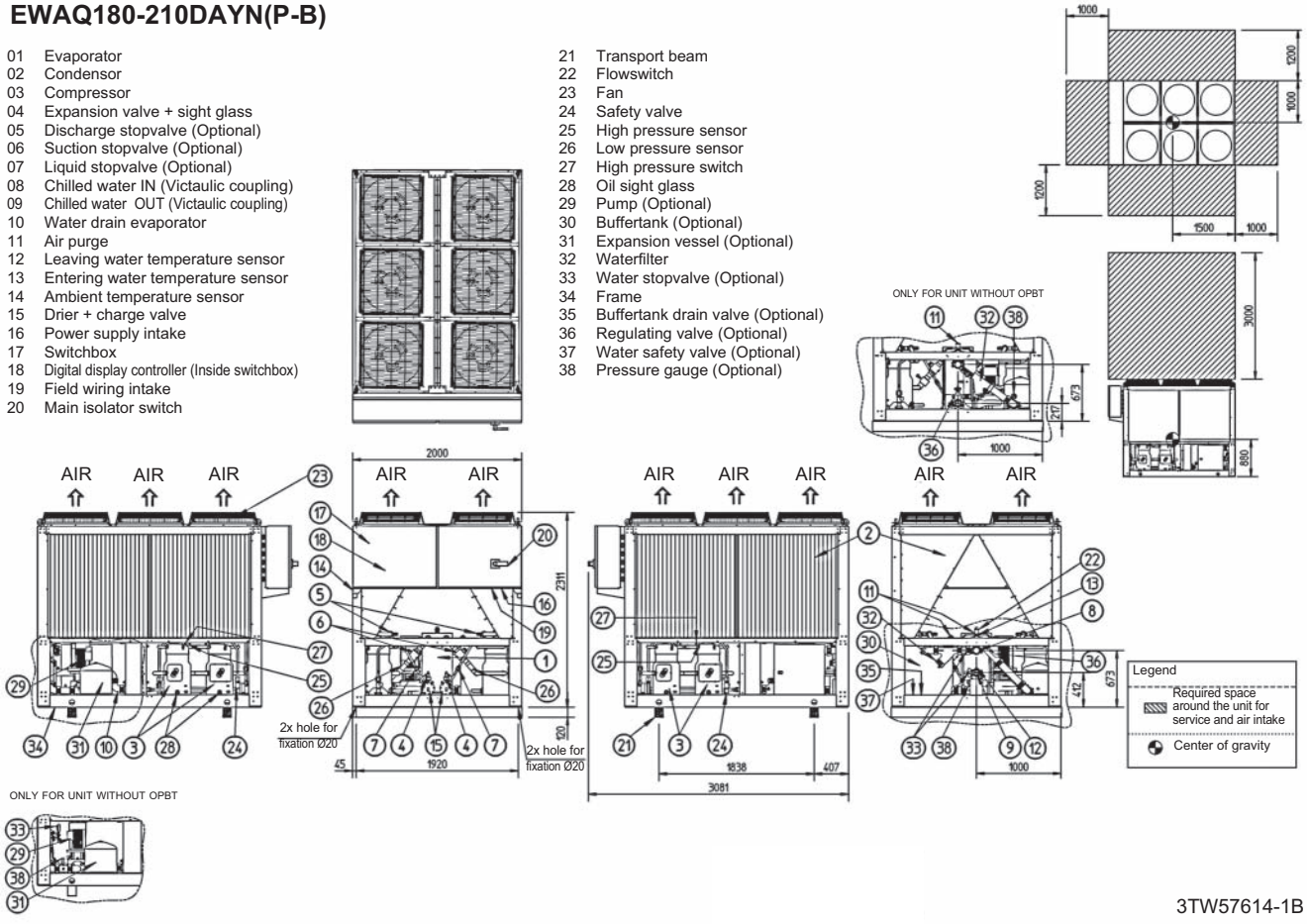
01 Evaporator
02 Condensor
03 Compressor
04 Expansion valve + sight glass
05 Discharge stopvalve(Optional)
06 Suction stopvalve (Optional)
07 Liquid stopvalve (Optional)
08 Chilled water IN (Victaulic coupling)
09 Chilled water OUT (Victaulic coupling)
10 Water drain evaporator
11 Air purge
12 Leaving water temperature sensor
13 Entering water temperature sensor
14 Ambient temperature sensor
15 Drier + charge valve
16 Power supply intake
17 Switchbox
18 Digital display controller (Inside switchbox)
19 Field wiring intake
20 Main isolator switch
21 Transport beam
22 Flowswitch
23 Fan
24 Safety valve
25 High pressure sensor
26 Low pressure sensor
27 High pressure switch
28 Oil sight glass
29 Waterfilter
30 Frame



3TW57614-2A

EWAQ180-210DAYN(P-B)

01 Evaporator
02 Condensor
03 Compressor
04 Expansion valve + sight glass
05 Discharge stopvalve (Optional)
06 Suction stopvalve (Optional)
07 Liquid stopvalve (Optional)
08 Chilled water IN (Victaulic coupling)
09 Chilled water OUT (Victaulic coupling)
10 Water drain evaporator
11 Air purge
12 Leaving water temperature sensor
13 Entering water temperature sensor
14 Ambient temperature sensor
15 Drier + charge valve
16 Power supply intake
17 Switchbox
18 Digital display controller (Inside switchbox)
19 Field wiring intake
20 Main isolator switch
21 Transport beam
22 Flowswitch
23 Fan
24 Safety valve
25 High pressure sensor
26 Low pressure sensor
27 High pressure switch
28 Oil sight glass
29 Pump (Optional)
30 Buffertank (Optional)
31 Expansion vessel (Optional)
32 Waterfilter
33 Water stopvalve (Optional)
34 Frame
35 Buffertank drain valve (Optional)
36 Regulating valve (Optional)
37 Water safety valve (Optional)
38 Pressure gauge (Optional)



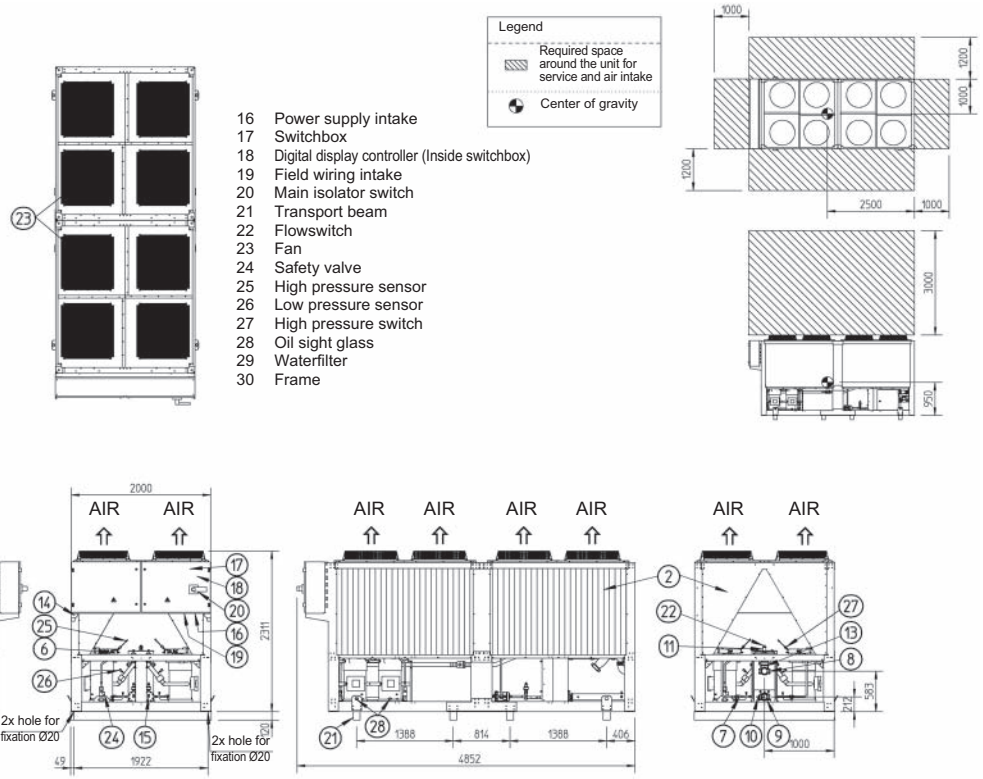
3TW57614-1B

4 Dimensional drawing

4 - 1 Dimensional drawing

EWAQ240-260DAYN(N)

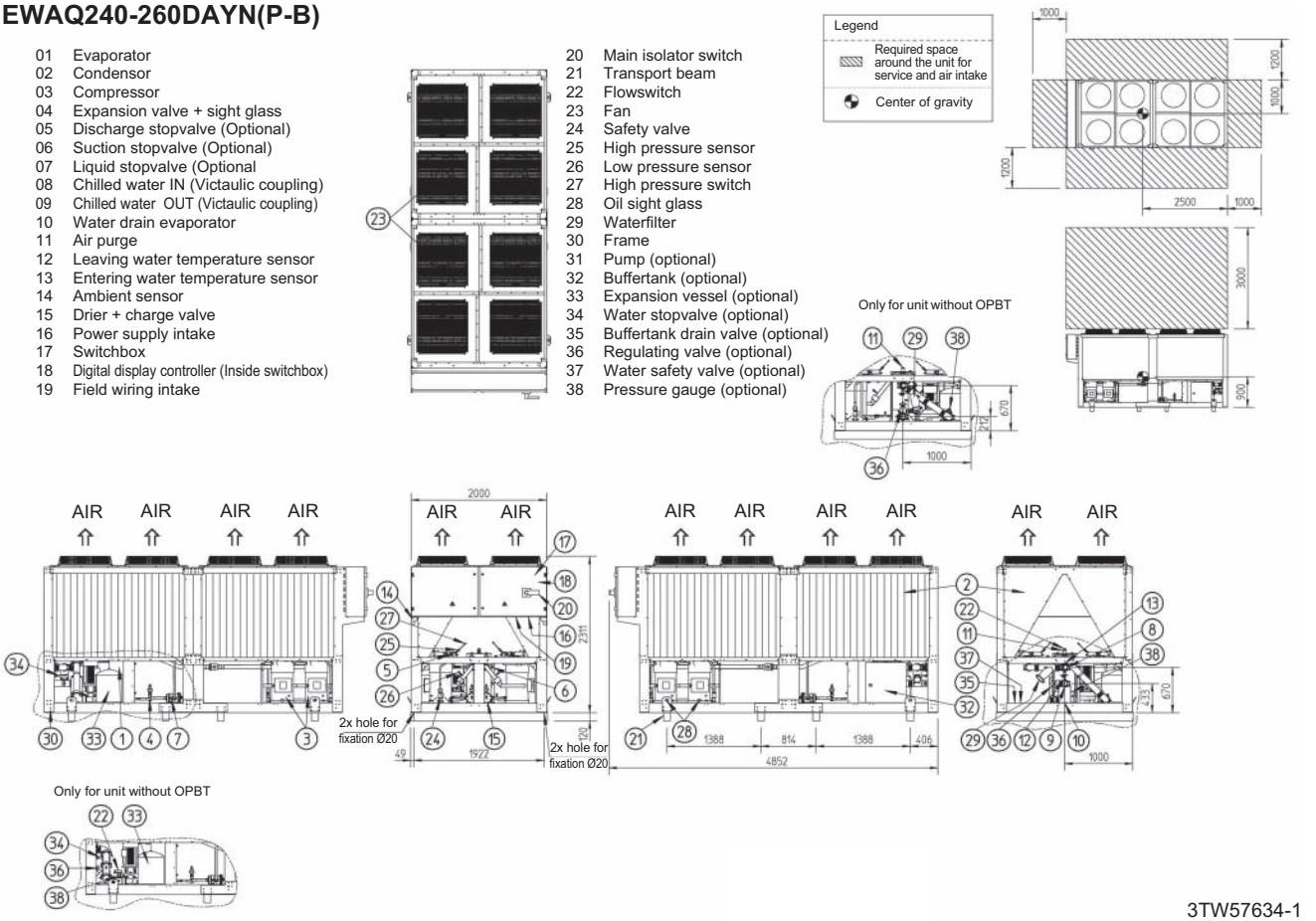
01 Evaporator
02 Condensor
03 Compressor
04 Expansion valve + sight glass
05 Discharge stopvalve (Optional)
06 Suction stopvalve (Optional)
07 Liquid stopvalve (Optional)
08 Chilled water IN (Victaulic coupling)
09 Chilled water OUT (Victaulic coupling)
10 Water drain evaporator
11 Air purge
12 Leaving water temperature sensor
13 Entering water temperature sensor
14 Ambient sensor
15 Drier + charge valve
16 Power supply intake
17 Switchbox
18 Digital display controller (Inside switchbox)
19 Field wiring intake
20 Main isolator switch
21 Transport beam
22 Flowswitch
23 Fan
24 Safety valve
25 High pressure sensor
26 Low pressure sensor
27 High pressure switch
28 Oil sight glass
29 Waterfilter
30 Frame



3TW57634-2

EWAQ240-260DAYN(P-B)

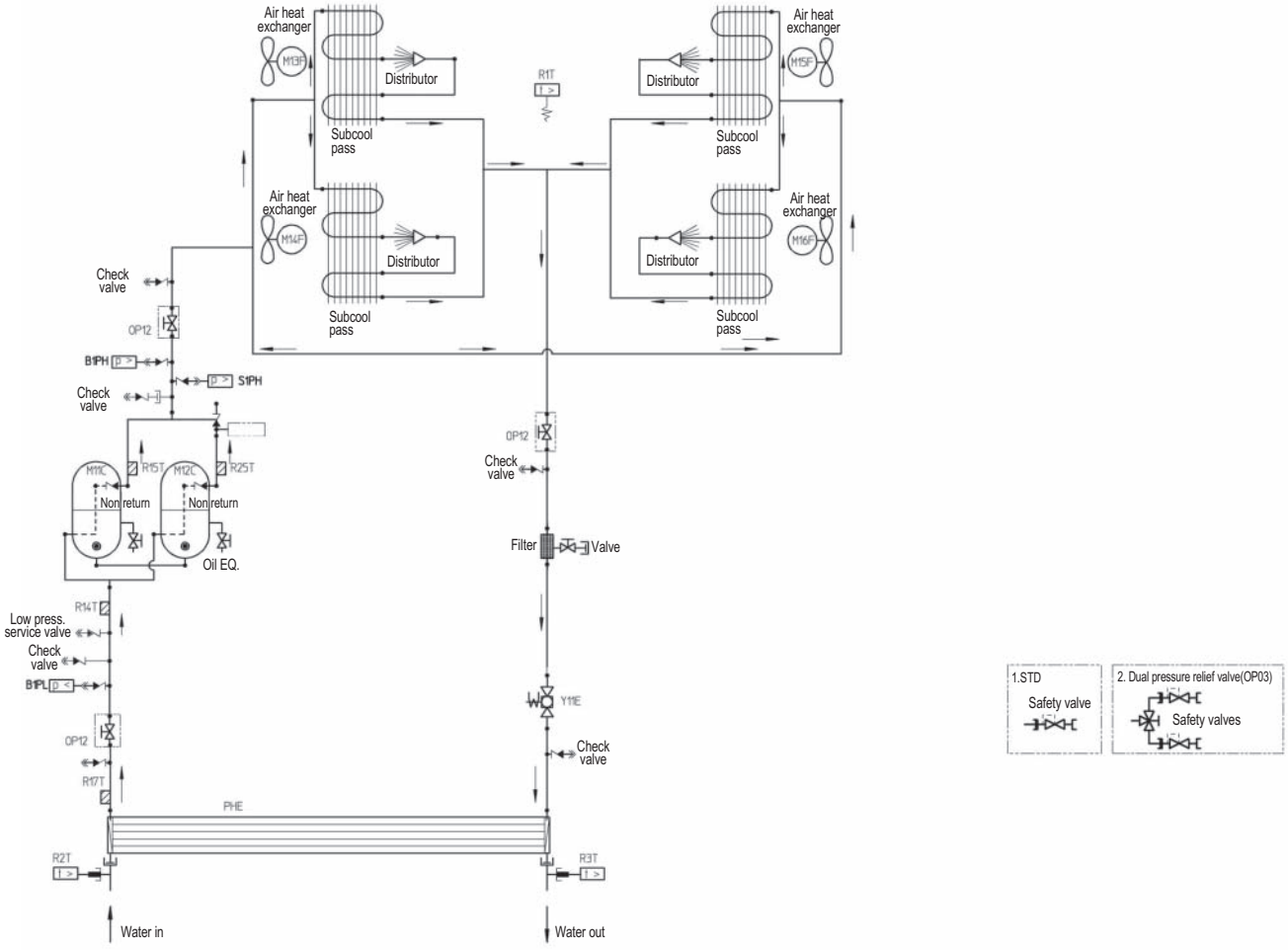
01 Evaporator
02 Condensor
03 Compressor
04 Expansion valve + sight glass
05 Discharge stopvalve (Optional)
06 Suction stopvalve (Optional)
07 Liquid stopvalve (Optional
08 Chilled water IN (Victaulic coupling)
09 Chilled water OUT (Victaulic coupling)
10 Water drain evaporator
11 Air purge
12 Leaving water temperature sensor
13 Entering water temperature sensor
14 Ambient sensor
15 Drier + charge valve
16 Power supply intake
17 Switchbox
18 Digital display controller (Inside switchbox)
19 Field wiring intake
20 Main isolator switch
21 Transport beam
22 Flowswitch
23 Fan
24 Safety valve
25 High pressure sensor
26 Low pressure sensor
27 High pressure switch
28 Oil sight glass
29 Waterfilter
30 Frame
31 Pump (optional)
32 Buffertank (optional)
33 Expansion vessel (optional)
34 Water stopvalve (optional)
35 Buffertank drain valve (optional)
36 Regulating valve (optional)
37 Water safety valve (optional)
38 Pressure gauge (optional)


Legend
Required space around the unit for service and air intake
Center of gravity
Only for unit without OPBT
AIR
2x hole for fixation Ø20

3TW57634-1

5 Piping diagram

EWAQ080-100DAYN(N-P-B) (piping diagram)



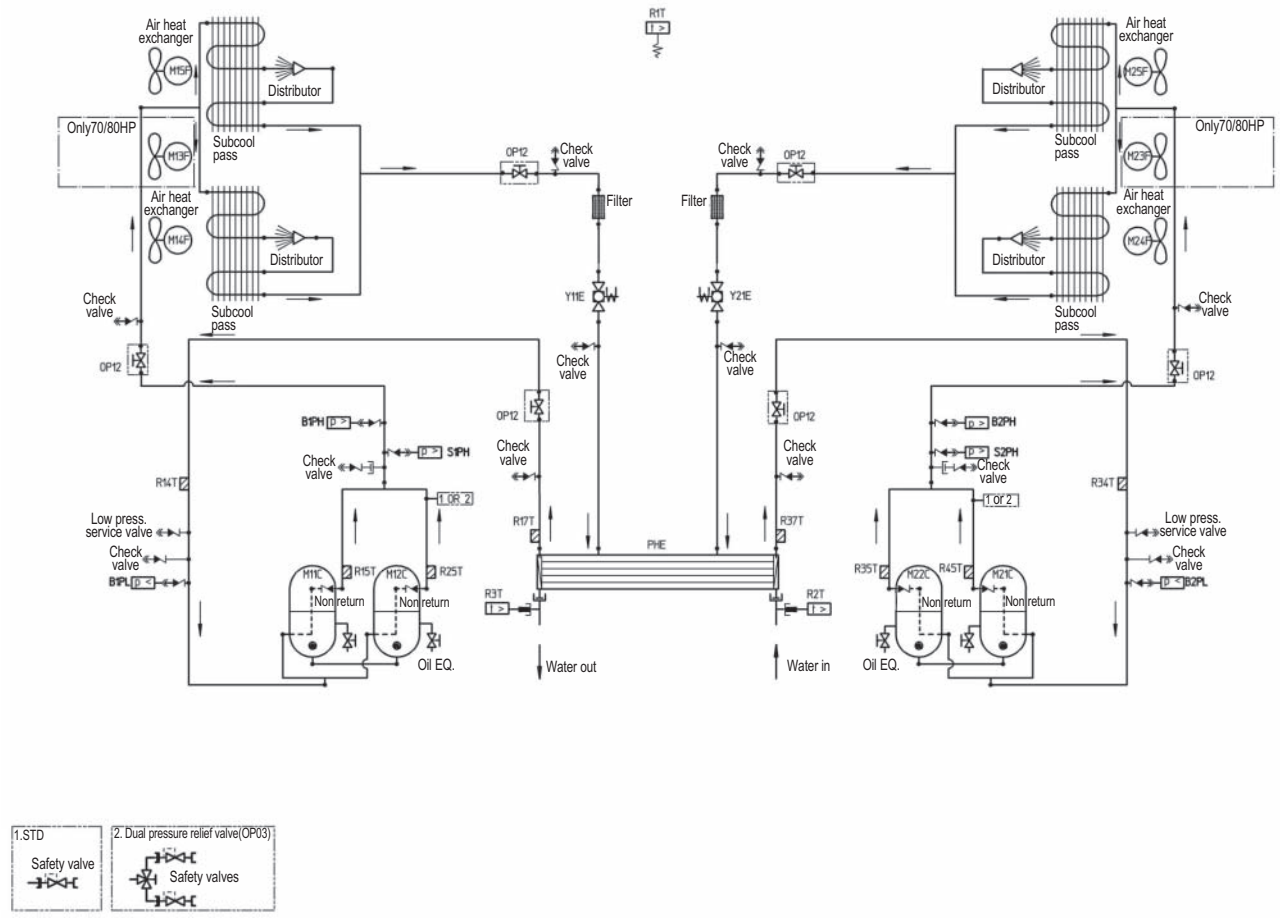
BRAND	DESIGNATION		
M11-12C	Compressor motors	B1PH	High pressure sensor
M13-16F	Fan motors	B1PL	Low pressure sensor
R14T	Suction temperature sensor	Y11E	Electronic expansion valve cooling
R17T	Refrigerant piping temperature sensor	R1T	Ambient temperature sensor
S1PH	High pressure switch	R2T	Evaporator inlet water temperature sensor
R15T, R25T	Discharge temperature sensor	R3T	Evaporator outlet water temperature sensor

: Check valve
: Flare Conn.
: Screw conn.
: Flange conn.
: Pinched pipe
: Spinned pipe

3TW57575-1

5 Piping diagram

EWAQ130-210DAYN(N-P-B)(piping diagram)



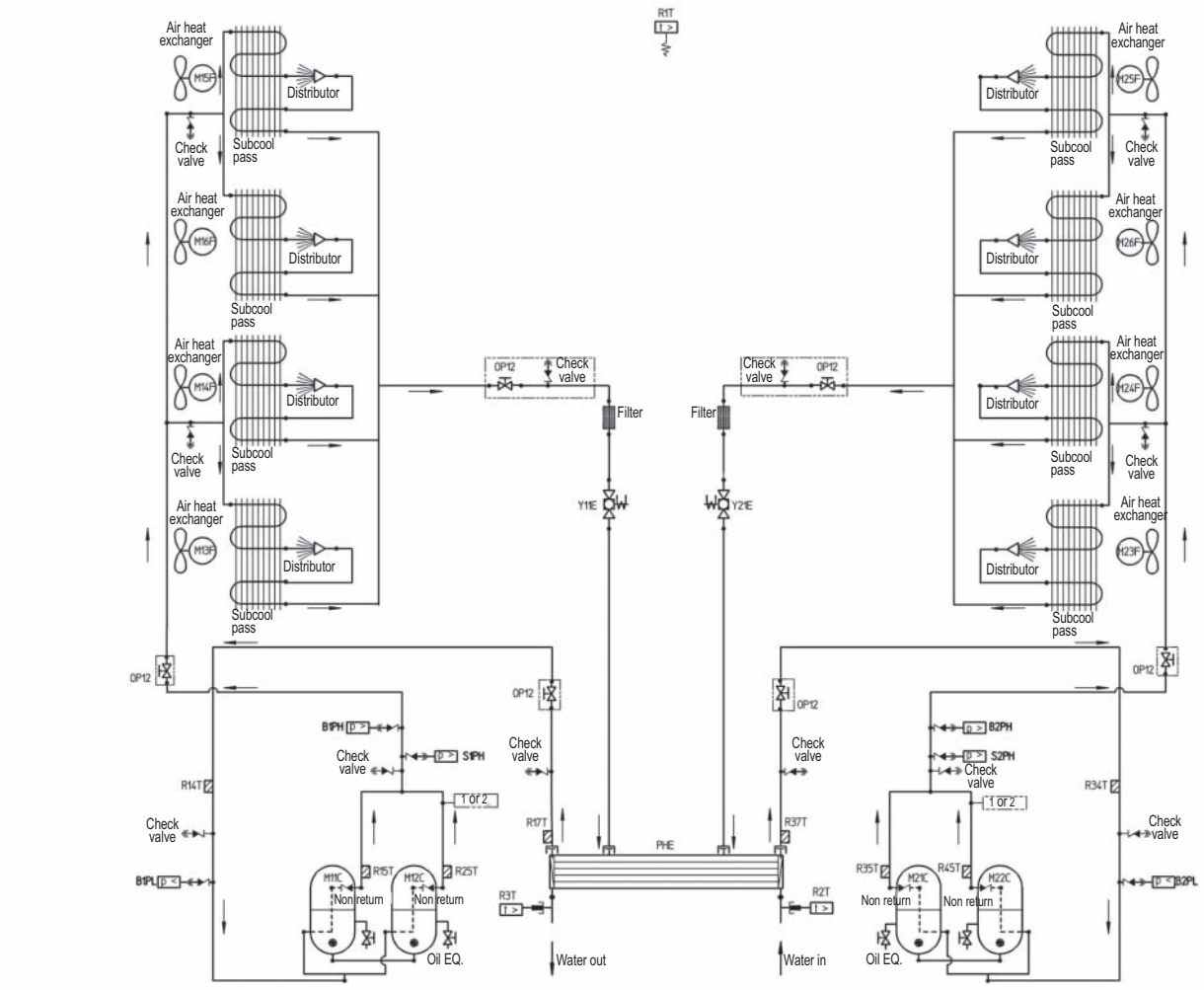
BRAND	DESIGNATION		
M11-12C	Compressor motors circuit 1	M23-25F	Fan motors circuit 2
M13-15F	Fan motors circuit 1	R34T	Suction temperature sensor circuit 2
R14T	Suction temperature sensor circuit 1	R37T	Refrigerant piping temperature sensor circuit 2
R17T	Refrigerant piping temperature sensor circuit 1	S2PH	High pressure switch circuit 2
S1PH	High pressure switch circuit 1	R35T, R35T	Discharge temperature sensor circuit 2
R15T, R25T	Discharge temperature sensor circuit 1	B2PH	High pressure sensor circuit 2
B1PH	High pressure sensor circuit 1	B2PL	Low pressure sensor circuit 2
B1PL	Low pressure sensor circuit 1	Y21E	Electronic expansion valve cooling circuit 2
Y11E	Electronic expansion valve cooling circuit 1	R1T	Ambient temperature sensor
M21-22C	Compressor motors circuit 2	R2T	Evaporator inlet water temperature sensor
		R3T	Evaporator outlet water temperature sensor

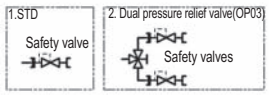
: Check valve
: Flare Conn.
: Screw conn.
Flange conn.
: Pinched pipe
: Spinned pipe

2TW57595-1

5 Piping diagram

EWAQ240-260DAYN(N-P-B)(piping diagram)





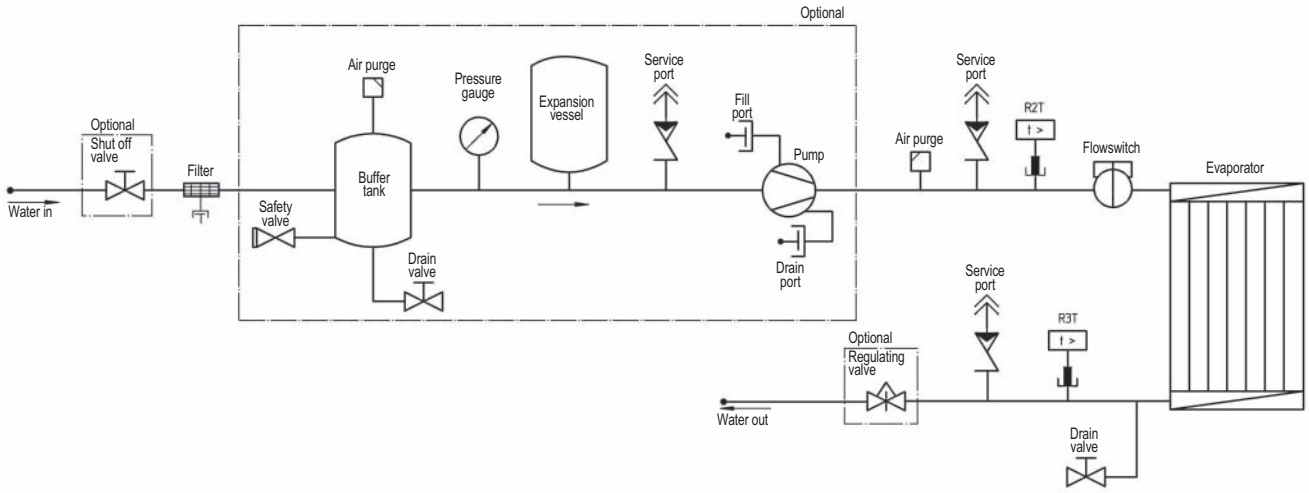
BRAND	DESIGNATION		
M11-12C	Compressor motors circuit 1	M23-26F	Fan motors circuit 2
M13-16F	Fan motors circuit 1	R34T	Suction temperature sensor circuit 2
R14T	Suction temperature sensor circuit 1	R37T	Refrigerant piping temperature sensor circuit 2
R17T	Refrigerant piping temperature sensor circuit 1	S2PH	High pressure switch circuit 2
S1PH	High pressure switch circuit 1	R35T, R35T	Discharge temperature sensor circuit 2
R15T, R25T	Discharge temperature sensor circuit 1	B2PH	High pressure sensor circuit 2
B1PH	High pressure sensor circuit 1	B2PL	Low pressure sensor circuit 2
B1PL	Low pressure sensor circuit 1	Y21E	Electronic expansion valve cooling circuit 2
Y11E	Electronic expansion valve cooling circuit 1	R1T	Ambient temperature sensor
M21-22C	Compressor motors circuit 2	R2T	Evaporator inlet water temperature sensor
		R3T	Evaporator outlet water temperature sensor

: Check valve
: Flare Conn.
: Screw conn.
Flange conn.
: Pinched pipe
: Spinned pipe

2TW57635-1

5 Piping diagram

EWAQ-EWYQ-DAYN(N-P-B)(water piping diagram)



: Check valve
: Flare Conn.
: Screw conn.
: Flange conn.
: Pinched pipe
: Spinned pipe

3TW57575-2A

6 Wiring diagram

6 - 1 External connection diagram

LEGEND

Translation of this legend can be found in the installation manual.

	Not included with standard unit	
	Not possible as option	Possible as option
Obligatory	#	##
Not obligatory	*	**

: Field wiring

(1) : Several wiring possibilities

: Dipswitch set on left position

Part number		Description
A02P	**	Communication PCB (EKACPG)
A4P		PCB wired remote control
A5P	**	PCB wired remote control (EKRUPG)
E5H	*	fieldheater
F1,F2,F3	#	main fuses
F4,F5	#	fuses for heaters
H11,12,21,22P	*	indication lamp: operation compressor
H1P	*	indication lamp: alarm signal (default NO)
H2,3,4,5,6P	*	indication lamp for changeable digital outputs
K1P	##	pump contactor (Only OPSP/OPHP/OPSC/OPTP/OPTC)
K2P	**	pump contactor (Only for OPTP/OPTC)
K1S	*	overcurrent relay pump (P/B unit or OPSC)
M1P	*	pump motor 1 (Only OPSP/ OPHP/OPSC/OPTP/OPTC)
M2P	*	pump motor 2 (Only for OPTP/OPTC)
R8T	*	temperature sensor for changeable digital input
S1M		main isolator switch
S1,2,3,4,5S	*	switch for changeable digital input
S2M	#	heatertape isolator switch
V2C	**	ferrite core (EKACPG)

Options (factory installed)	
OPSP	=Single pump
OPTP	=Twin pump
OPSC	=Single pump contactor
OPTC	=Twin pump contactor
OPHP	=Hi ESP pump
OPIF	=Inverter fans

Options (user installed)	
EKACPG	=Address card including
	-RS 485 (Integrated modbus)
	-F1,F2 (DCIN+DBACS connection)
EKRUPG	=Remote user interface

N-Model	=unit with no options included
Ch.	=Changeable

Changeable I/O possible functions

Refer to the installation manual for instructions how to configure changeable I/O

Changeable digital input (4 available)
-None
-Status
-Dual setpoint
-Remote on-off
-Capacity limitation 25%,50%,75% or setting
-Low noise (only for OPIF)
-Free cooling signal
-Fan forced on

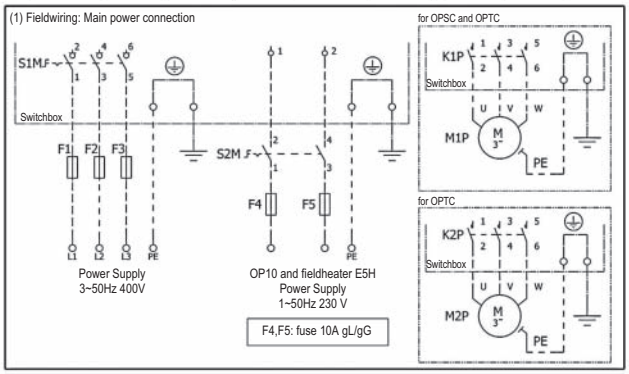
Changeable analog output (1 available)
-None
-Unit Capacity (mA,V)
-Details of types
Type mA: 0..20mA/4..20mA
Type V: 0-1V/0-5V/0-10V

Changeable digital output (6 or 5 available depending on unit)
-None
-Closed
-2nd pump
-100% capacity
-Full capacity
-Free cooling
-General operation
-Safety+warning NO
-Safety+warning NC (only for Ch.DO1)
-Safety NO (excluding warning)
-Safety NC (excluding warning) (only for Ch.DO1)
-C1,C2 Safety NO
-Warning NO
-C1,C2 operation
-Cooling (only EWYQ)
-Heating (only EWYQ)
-Defrost (only EWYQ

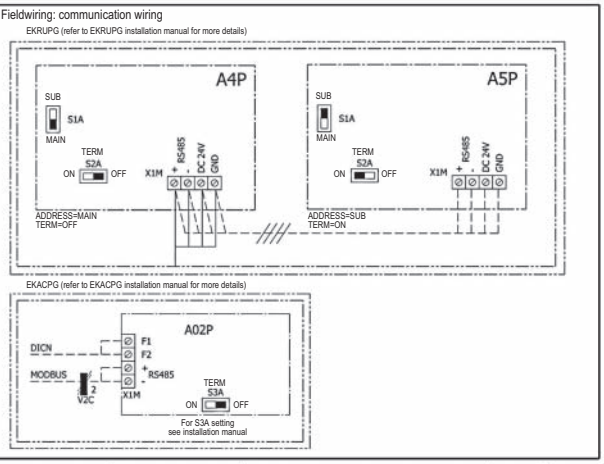
Changeable analog input (4 available)
-None
-Status (mA,V,NTC*,DI)
-Floating setpoint (mA, V, NTC*)
-Water temperature measurement (NTC*)
-Changeable DI, refer to Ch DI for possibilities (DI)
-Details of types:
Type mA: 0..20mA/4..20mA
(internal 5V or external power supply)
Type V: 0-1V/0-5V/0-10V
Type DI: DI (5V detection)

*: for allowed NTC types and how to configure the software please contact your local dealer.

(1) Fieldwiring: Main power connection

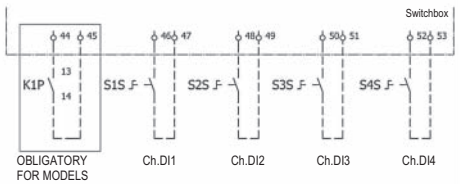


(1) Fieldwiring: communication wiring

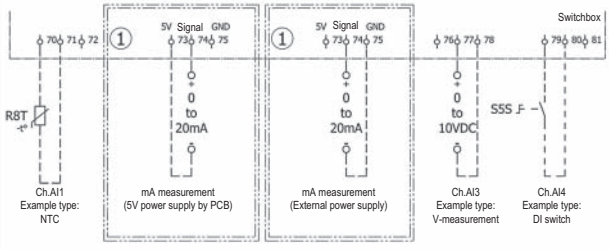


Description: Connection diagram | Drawing number: 4TW57579-2 | Revision: B | Page: 1 | Unit name: EWAQ/EWYQ 80-260

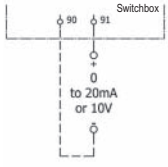
(3) Fieldwiring: Digital input terminals



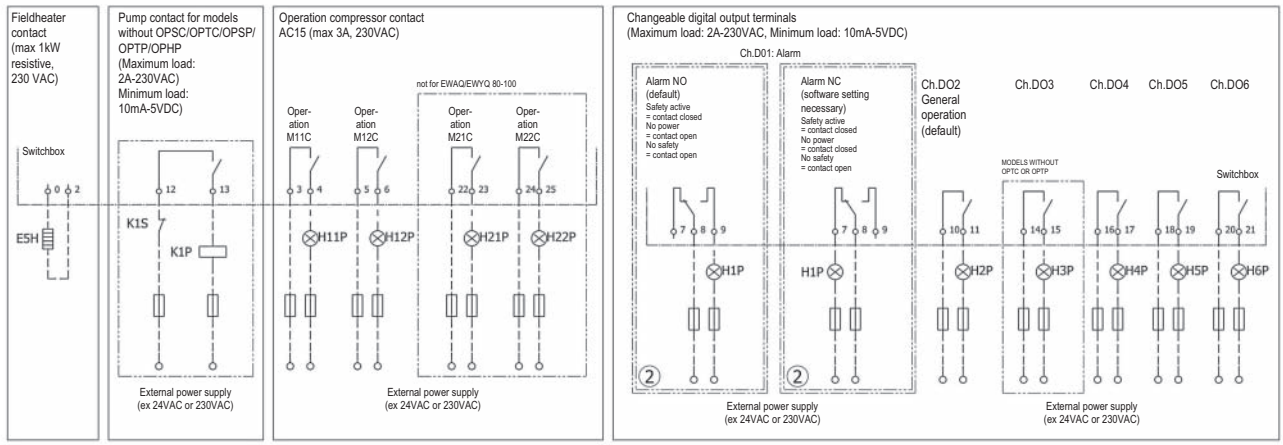
(4) Fieldwiring: Analog input terminals
(connection is depending on type setting: NTC or mA or V or DI)



(5) Fieldwiring:
Analog output terminals
(types: mA or V)



(6) Fieldwiring: Output terminals



Description: Connection diagram | Drawing number: 4TW57579-2 | Revision: B | Page: 2 | Unit name: EWAQ/EWYQ 80-260

7 Sound data

7 - 1 Sound power spectrum

EWAQ-EWYQ-DAYN(N-P-B)

STD - Units LWE= 7°C / Tamb = 35°C	Sound power Lw per Octave band (dBA)								Total (dBA)
	63	125	250	500	1000	2000	4000	8000	LwA
EW(A/Y)Q080DAYN*	64	69	72	82	81	77	71	62	86
EW(A/Y)Q100DAYN*	62	66	71	79	82	80	74	64	86
EW(A/Y)Q130DAYN*	64	70	73	81	85	80	72	61	88
EW(A/Y)Q150DAYN*	65	74	75	85	84	80	74	65	89
EW(A/Y)Q180DAYN*	70	75	79	85	86	82	75	64	90
EW(A/Y)Q210DAYN*	67	74	79	85	86	83	76	64	90
EW(A/Y)Q(230/240)DAYN*	71	72	77	87	86	83	77	67	91
EW(A/Y)Q(250/260)DAYN*	71	72	77	87	86	83	77	67	91

OPLN - Units LWE= 7°C / Tamb = 35°C	Sound power Lw per Octave band (dBA)								Total (dBA)
	63	125	250	500	1000	2000	4000	8000	LwA
EW(A/Y)Q080DAYN*	62	67	70	80	79	75	69	60	84
EW(A/Y)Q100DAYN*	60	64	69	77	80	78	72	62	84
EW(A/Y)Q130DAYN*	61	67	70	78	82	77	69	58	85
EW(A/Y)Q150DAYN*	62	71	72	82	81	77	71	62	86
EW(A/Y)Q180DAYN*	68	73	77	83	84	80	73	62	88
EW(A/Y)Q210DAYN*	65	72	77	83	84	81	74	62	88
EW(A/Y)Q(230/240)DAYN*	68	69	74	84	83	80	74	64	88
EW(A/Y)Q(250/260)DAYN*	68	69	74	84	83	80	74	64	88

OPLN - Units LWE= 7°C / Tamb = 25°C	Sound power Lw per Octave band (dBA)								Total (dBA)
	63	125	250	500	1000	2000	4000	8000	LwA
EW(A/Y)Q080DAYN*	61	66	69	79	78	74	68	59	83
EW(A/Y)Q100DAYN*	59	63	68	76	79	77	71	61	83
EW(A/Y)Q130DAYN*	60	66	69	77	81	76	68	57	84
EW(A/Y)Q150DAYN*	60	69	70	80	79	75	69	90	84
EW(A/Y)Q180DAYN*	66	71	75	81	82	79	72	60	86
EW(A/Y)Q210DAYN*	63	70	75	81	82	79	72	60	86
EW(A/Y)Q(230/240)DAYN*	67	68	73	83	82	79	73	63	87
EW(A/Y)Q(250/260)DAYN*	67	68	73	83	82	79	73	63	87

NOTES

1 Values of Sound power according to ISO9614-2

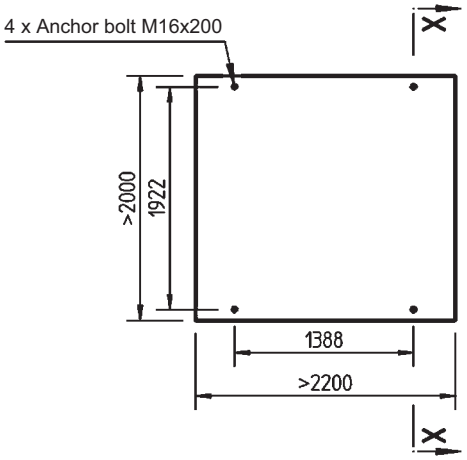
2 LWE= Leaving Water Evaporator temperature (°C)
Tamb= Ambient temperature

4TW57577-1C

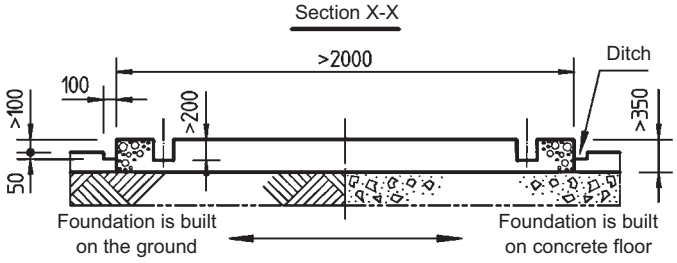
8 Installation

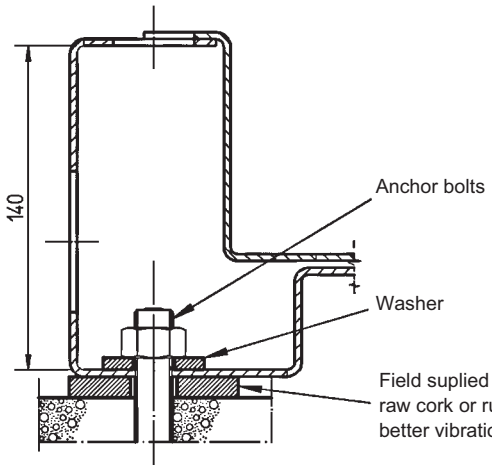
8 - 1 Fixation and foundation of units

EWAQ-EWYQ080-150DAYN(N-P- B)



Fix anchor bolts into the concrete foundation.
The concrete foundation should be higher than the floor level by approximately 100 mm for ease of plumbing work and better drain.
Further, strength of the floor should be sufficient to support the weights of concrete foundation and unit.
Be certain that foundation surface is even and flat.





NOTES

1 The measurement tabulated is based on the fact the base is made in the ground or on a concrete floor. In case the base is made on a concrete floor. In case the base is made on a rigid concrete floor, it is possible to include thickness of concrete floor, in that of the base.

2 In case a base is made on concrete floor, be sure to provide a ditch as shown. It is important to extract drainage regardless of wether a base is made in the ground or on the concrete floor. (Ditch → Sewerage).

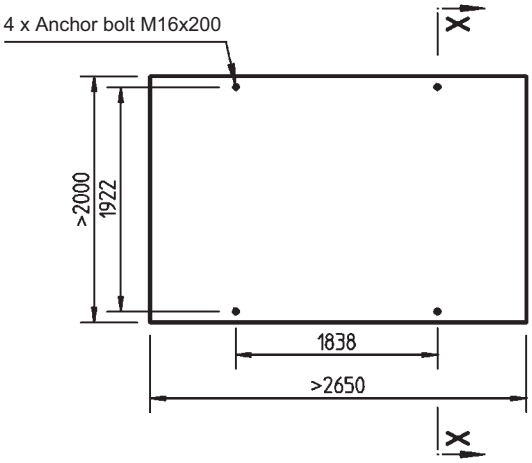
3 Ingredient ratio of the concrete is cement: 1, sand: 2, gravel: 3, which is standard and insert iron bars of ∅10 at every interval of 300mm. The edge of the concrete base should be planed.

4TW57599-1

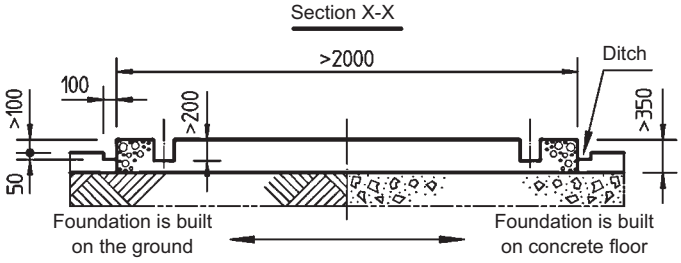
8 Installation

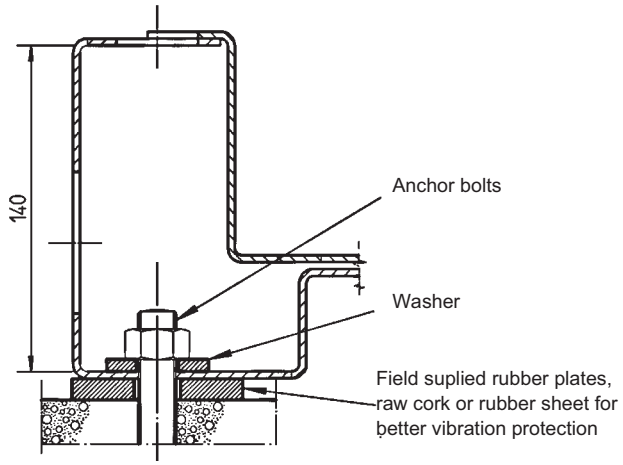
8 - 1 Fixation and foundation of units

EWAQ-EWYQ180-210DAYN(N-P-B)



Fix anchor bolts into the concrete foundation.
The concrete foundation should be higher than the floor level by approximately 100 mm for ease of plumbing work and better drain.
Further, strength of the floor should be sufficient to support the weights of concrete foundation and unit.
Be certain that foundation surface is even and flat.





NOTES

1 The measurement tabulated is based on the fact the base is made in the ground or on a concrete floor. In case the base is made on a concrete floor. In case the base is made on a rigid concrete floor, it is possible to include thickness of concrete floor, in that of the base.

2 In case a base is made on concrete floor, be sure to provide a ditch as shown. It is important to extract drainage regardless of wether a base is made in the ground or on the concrete floor. (Ditch → Sewerage).

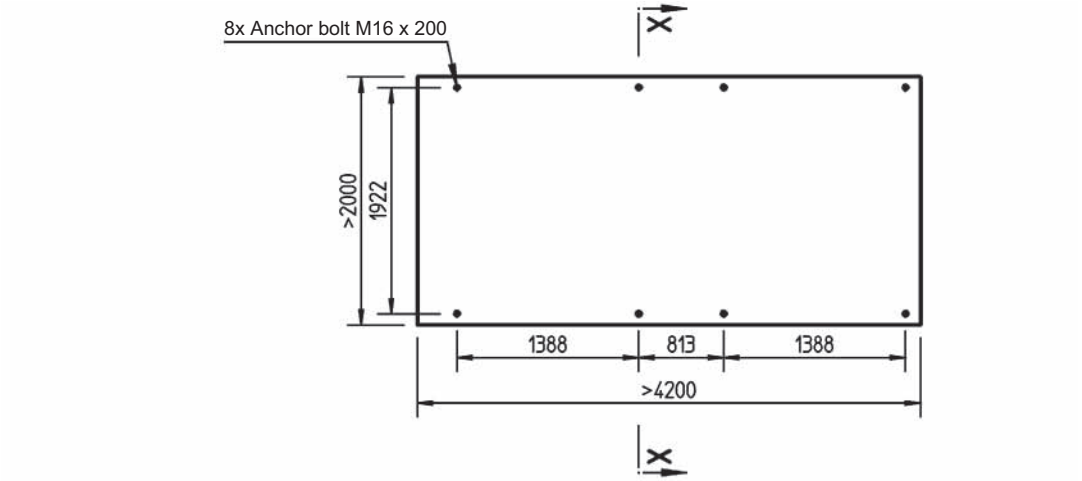
3 Ingredient ratio of the concrete is cement: 1, sand: 2, gravel: 3, which is standard and insert iron bars of ∅10 at every interval of 300mm. The edge of the concrete base should be planed.

4TW57619-1

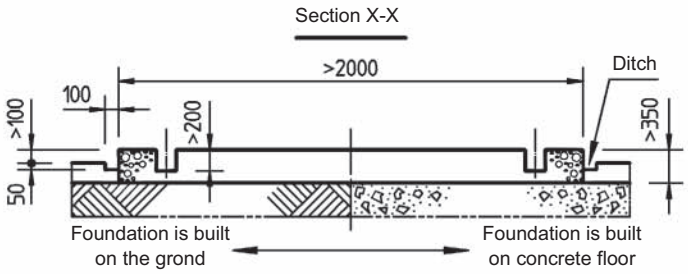
8 Installation

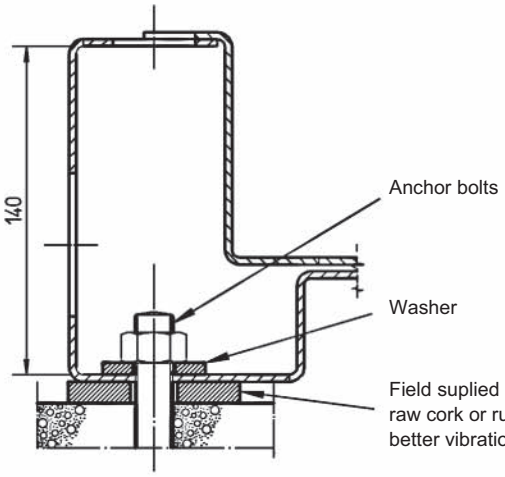
8 - 1 Fixation and foundation of units

EWAQ240-260DAYN(N-P-B)_EWYQ230-250DAYN(N-P-B)



Fix anchor bolts into the concrete foundation.
The concrete foundation should be higher than the floor level by approximately 100 mm for ease of plumbing work and better drain.
Further, strength of the floor should be sufficient to support the weights of concrete foundation and unit.
Be certain that foundation surface is even and flat.





NOTES

1 The measurement tabulated is based on the fact the base is made in the ground or on a concrete floor. In case the base is made on a rigid concrete floor, it is possible to include thickness of concrete floor in that of the base.

2 In case a base is made on concrete floor, be sure to provide a ditch as shown. It is important to extract drainage regardless of wether a base is made in the ground or on the concrete floor. (Ditch → Sewerage).

3 Ingredient ratio of the concrete is cement: 1, sand:2, gravel:3, which is standard and insert iron bars of ∅10 at every interval of 300mm. The edge of the concrete base should be planed.

4TW57639-1

8 Installation

8 - 2 Water charge, flow and quality

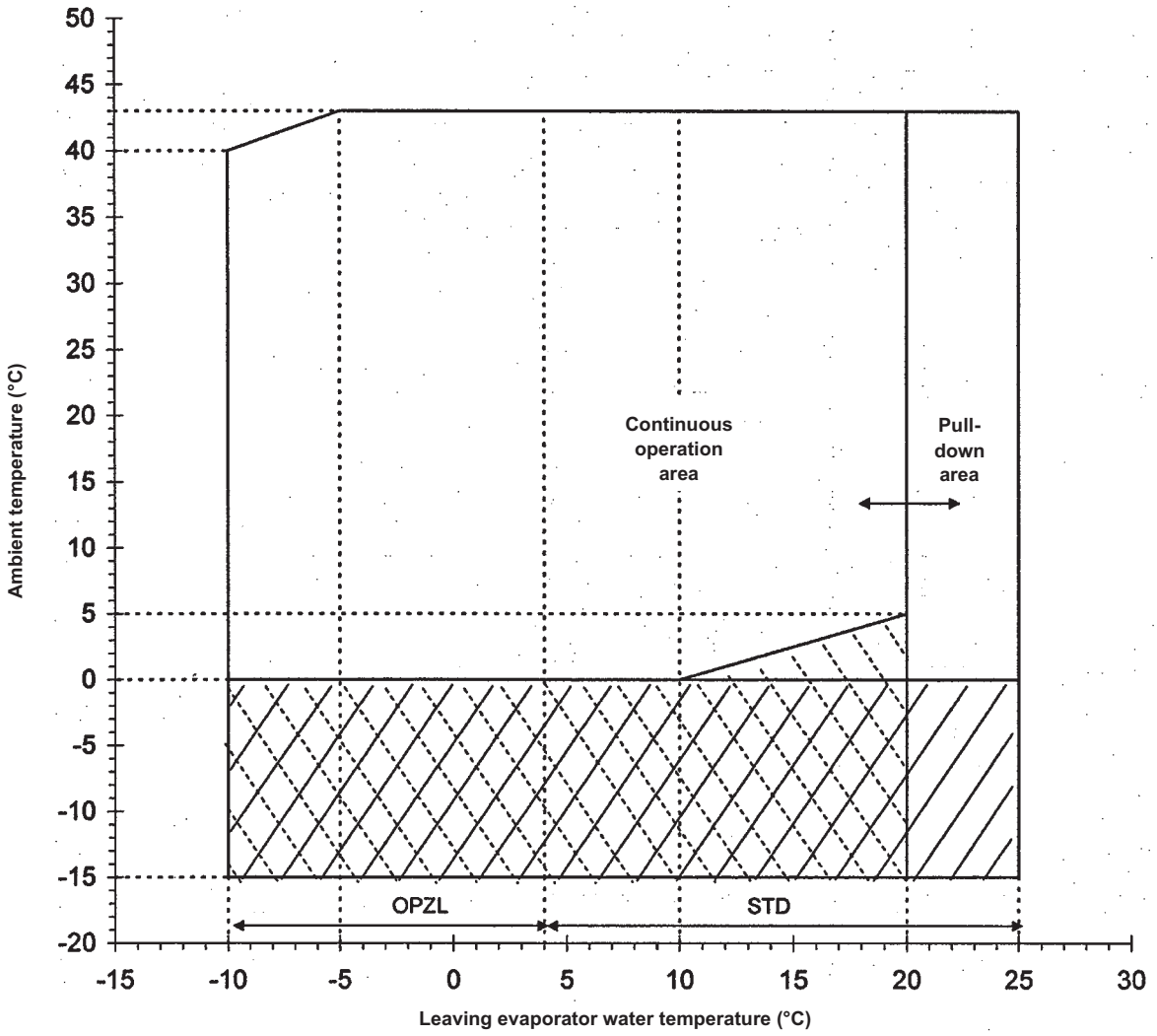
ITEMS (1) (5)			Cooling water (3)			Cooled water		Heated water (2)				Tendency if out of criteria
			Circulating system		Once flow			Low temperature		High temperature		
			Circulating water	Supply water (4)	Flowing water	Circulating water [Below 20°C]	Supply water (4)	Circulating water [20°C ~ 60°C]	Supply water (4)	Circulating water [60°C ~ 80°C]	Supply water (4)	
Items to be controlled:	pH	at 25°C	6.5~8.2	6.0~8.0	6.8~8.0	6.8~8.0	6.8~8.0	7.0~8.0	7.0~8.0	7.0~8.0	7.0~8.0	Corrosion + scale
	Electrical conductivity	[mS/m] at 25°C	Below 80	Below 30	Below 40	Below 40	Below 30	Below 30	Below 30	Below 30	Below 30	Corrosion + scale
		(μS/cm) at 25°C (1)	(Below 800)	(Below 300)	(Below 400)	(Below 400)	(Below 300)	(Below 300)	(Below 300)	(Below 300)	(Below 300)	Corrosion + scale
	Chloride ion	[mgCl⁻/l]	Below 200	Below 50	Below 50	Below 50	Below 50	Below 50	Below 50	Below 30	Below 30	Corrosion
	Sulfate ion	[mgSO^{2-}_4/l]	Below 200	Below 50	Below 50	Below 50	Below 50	Below 50	Below 50	Below 30	Below 30	Corrosion
	M-alkalinity (pH4.8)	[mg$CaCO_3$/l]	Below 100	Below 50	Below 50	Below 50	Below 50	Below 50	Below 50	Below 50	Below 50	Scale
	Total hardness	[mg$CaCO_3$/l]	Below 200	Below 70	Below 70	Below 70	Below 70	Below 70	Below 70	Below 70	Below 70	Scale
	Calcium hardness	[mg$CaCO_3$/l]	Below 150	Below 50	Below 50	Below 50	Below 50	Below 50	Below 50	Below 50	Below 50	Scale
	Silica ion	[mgSiO_2/l]	Below 50	Below 30	Below 30	Below 30	Below 30	Below 30	Below 30	Below 30	Below 30	Scale
Items to be referred to:	Iron	[mgFe/l]	Below 1.0	Below 0.3	Below 1.0	Below 1.0	Below 0.3	Below 1.0	Below 0.3	Below 1.0	Below 0.3	Corrosion + scale
	Copper	[mgCu/l]	Below 0.3	Below 0.1	Below 1.0	Below 1.0	Below 1.0	Below 1.0	Below 0.1	Below 1.0	Below 0.1	Corrosion
	Sulfite ion	[mgS^{2-}/l]	Not detectable	Not detectable	Not detectable	Not detectable	Not detectable	Not detectable	Not detectable	Not detectable	Not detectable	Corrosion
	Ammonium ion	[mgNH^{+}_4/l]	Below 1.0	Below 0.1	Below 1.0	Below 1.0	Below 0.1	Below 0.3	Below 0.1	Below 0.1	Below 0.1	Corrosion
	Remaining chloride	[mgCL/l]	Below 0.3	Below 0.3	Below 0.3	Below 0.3	Below 0.3	Below 0.25	Below 0.3	Below 0.1	Below 0.3	Corrosion
	Free carbide	[mgCO_2/l]	Below 4.0	Below 4.0	Below 4.0	Below 4.0	Below 4.0	Below 0.4	Below 4.0	Below 0.4	Below 4.0	Corrosion
	Stability index		6.0~7.0	---	---	---	---	---	---	---	---	Corrosion + scale

3TW50179-1

1 Names, definitions and units are according to JIS K 0101. Units and figures between brackets are old units published as reference only.
2 In case of using heated water (more than 40°C), corrosion is generally noticeable.
Especially when the iron material is in direct contact with water without any protection shields, it is desireable to give the valid measures for corrosion. e.g. chemical measure.
3 In the cooling water using hermetic cooling tower, closed circuit water is according to heated water standard, and scattered water is according to cooling water standard.
4 Supply water is considered drink water, industrial water and ground water except for genuine water, neutral water and soft water.
5 The above mentioned items are representable items in corrosion and scale cases.

9 Operation range

EWAQ080-100-180-210-240-260DAYN(N-P-B)



STD: Standard unit

OPZL: Leaving water evaporator from -10 to 4°C by use of glycol

Protect the water circuit against freezing by:

* OR OP10: heater tape

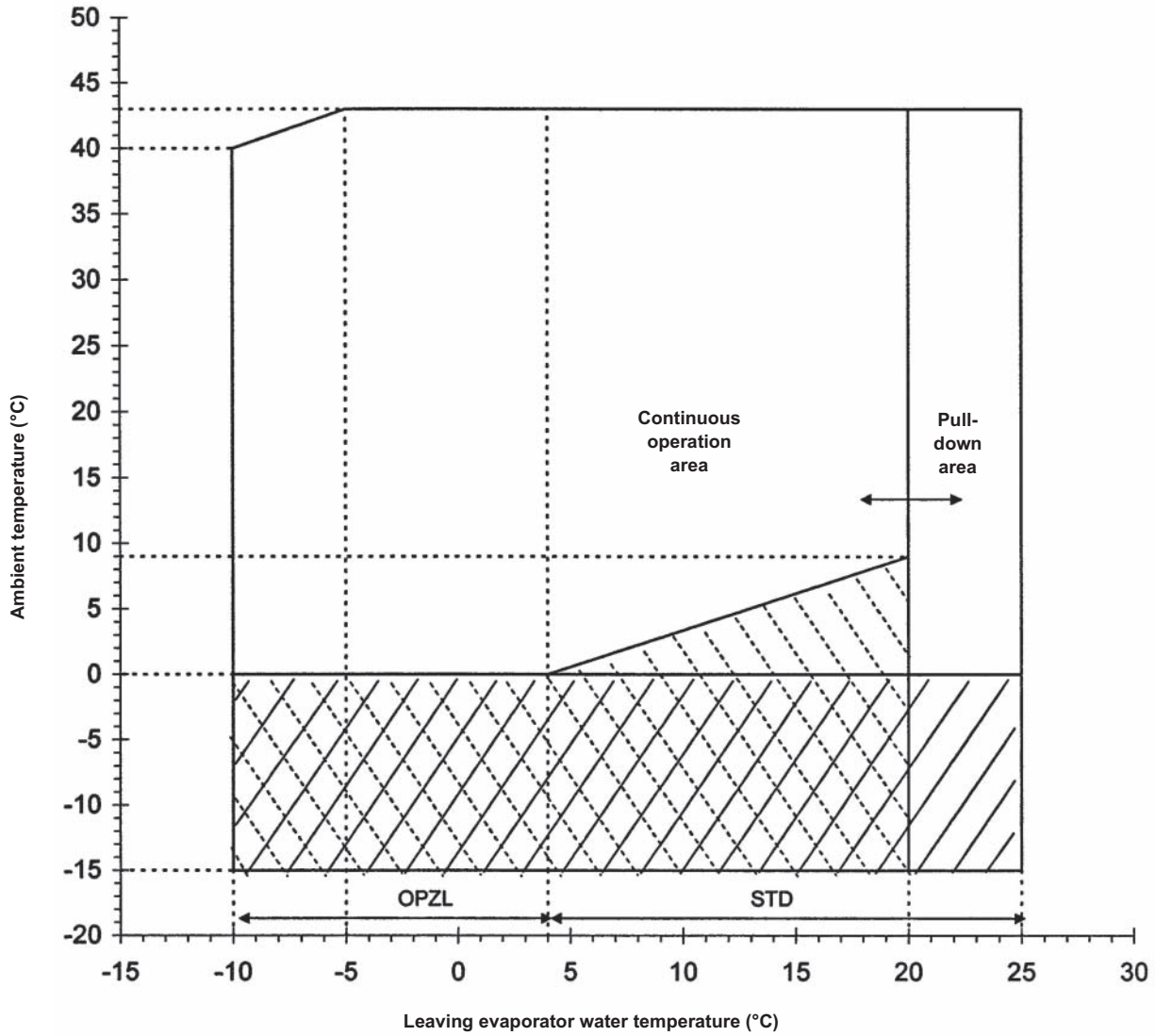
* Or filling up the system with a glycol solution

OPIF Option Inverter Fans EWAQ080-100-180-210-240-260

4TW57593-1B

9 Operation range

EWAQ130-150DAYN(N-P-B)



STD: Standard unit

OPZL: Leaving water evaporator from -10 to 4°C by use of glycol

Protect the water circuit against freezing by:

* OR OP10: heater tape
* Or filling up the system with a glycol solution

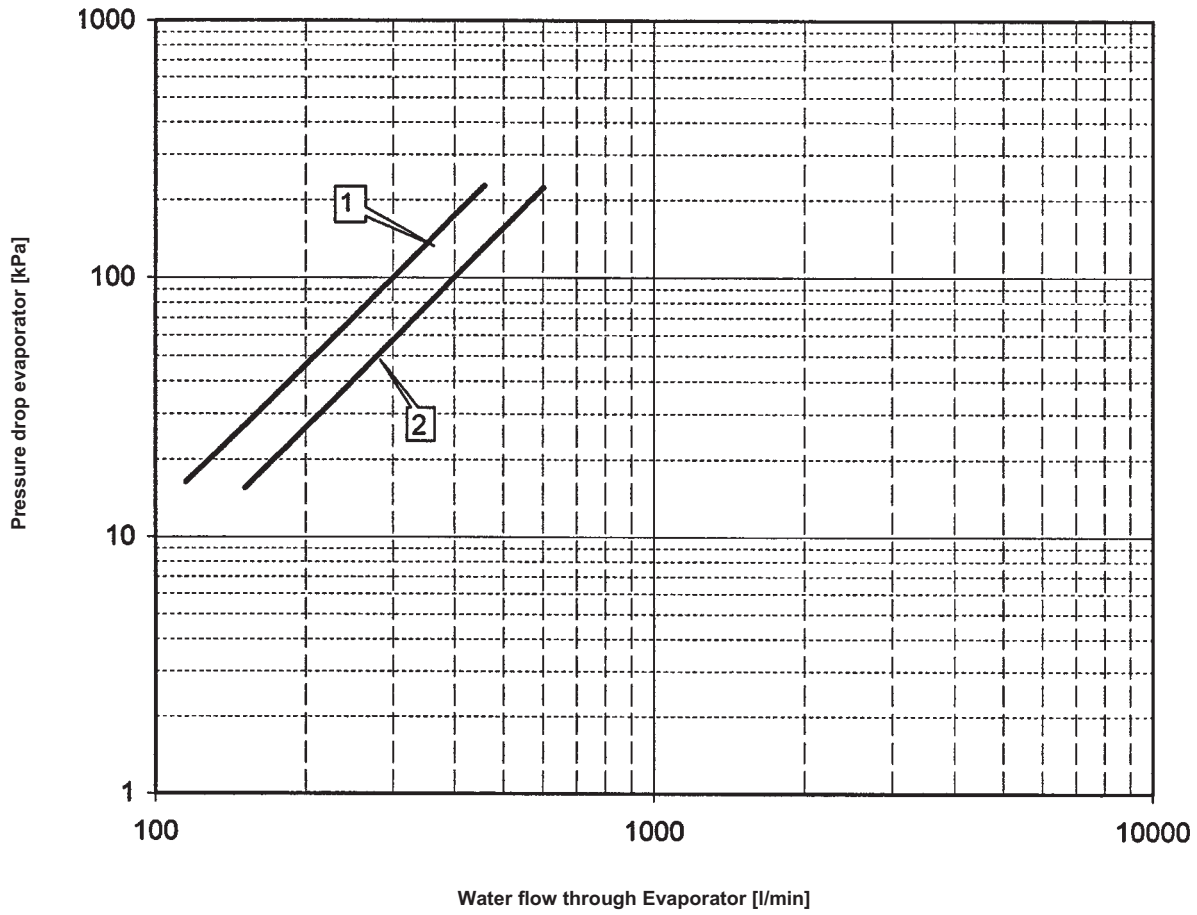
OPIF Option Inverter Fans EWAQ130-150

4TW57603-1A

10 Hydraulic performance

10 - 1 Water pressure drop curve evaporator

EWAQ080-100DAYN(N-P-B)



1. EWAQ080DAYN*

2. EWAQ100DAYN*

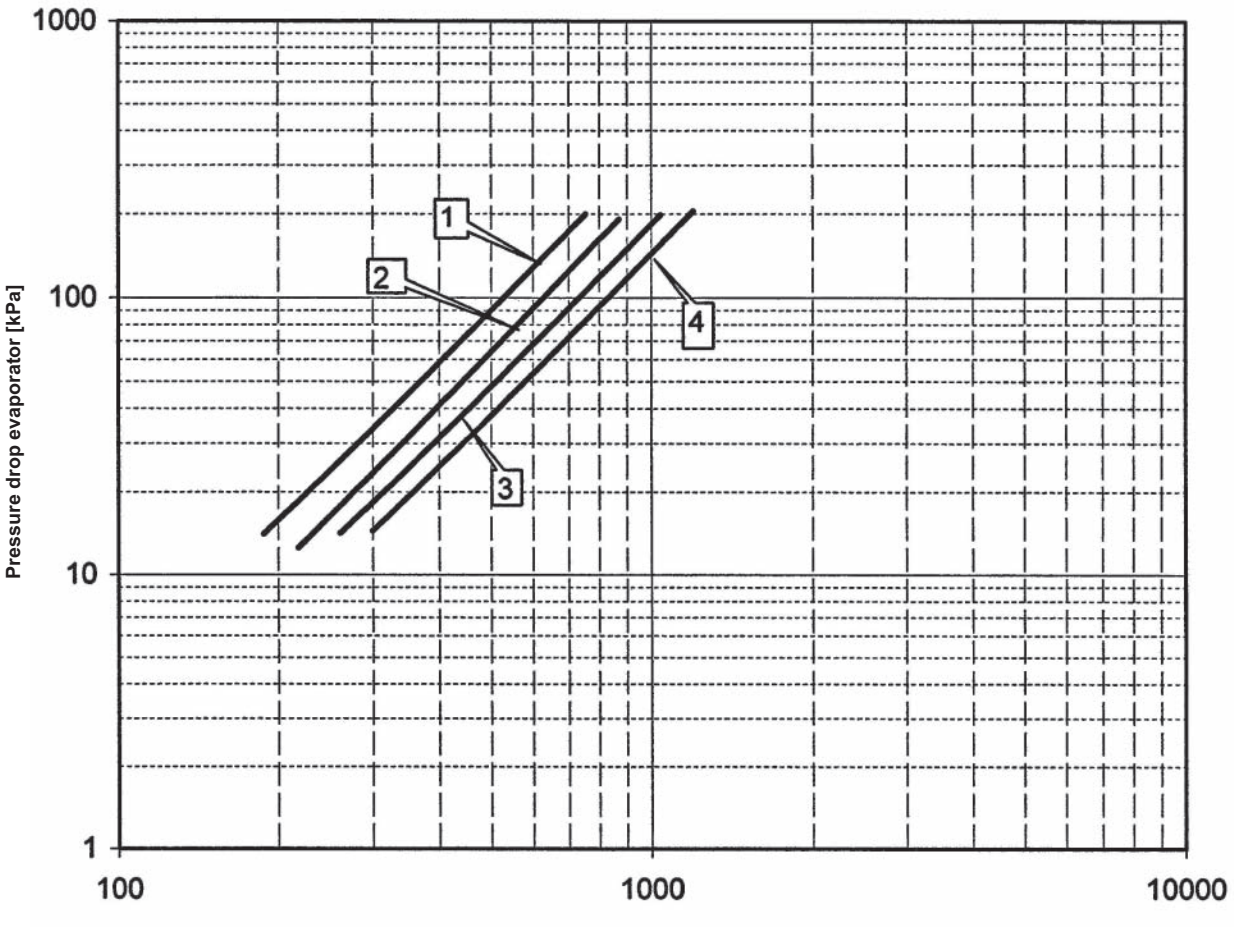
Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57579-5

10 Hydraulic performance

10 - 1 Water pressure drop curve evaporator

EWAQ240-260DAYN(N-P-B)



1. EWAQ240DAYN*

2. EWAQ260DAYN*

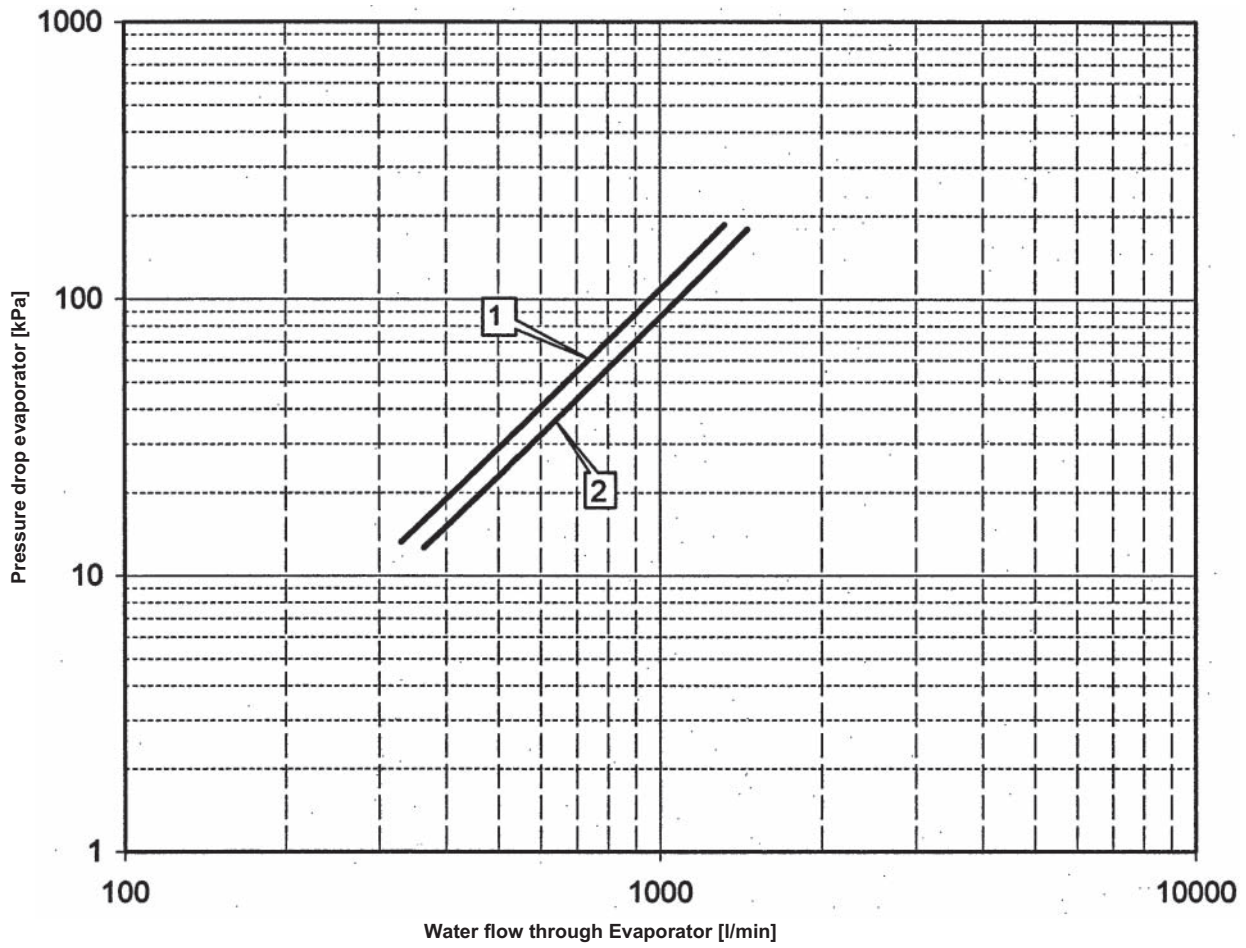
Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57599-5

10 Hydraulic performance

10 - 1 Water pressure drop curve evaporator

EWAQ240-260DAYN(N-P-B)



1. EWAQ240DAYN*

2. EWAQ260DAYN*

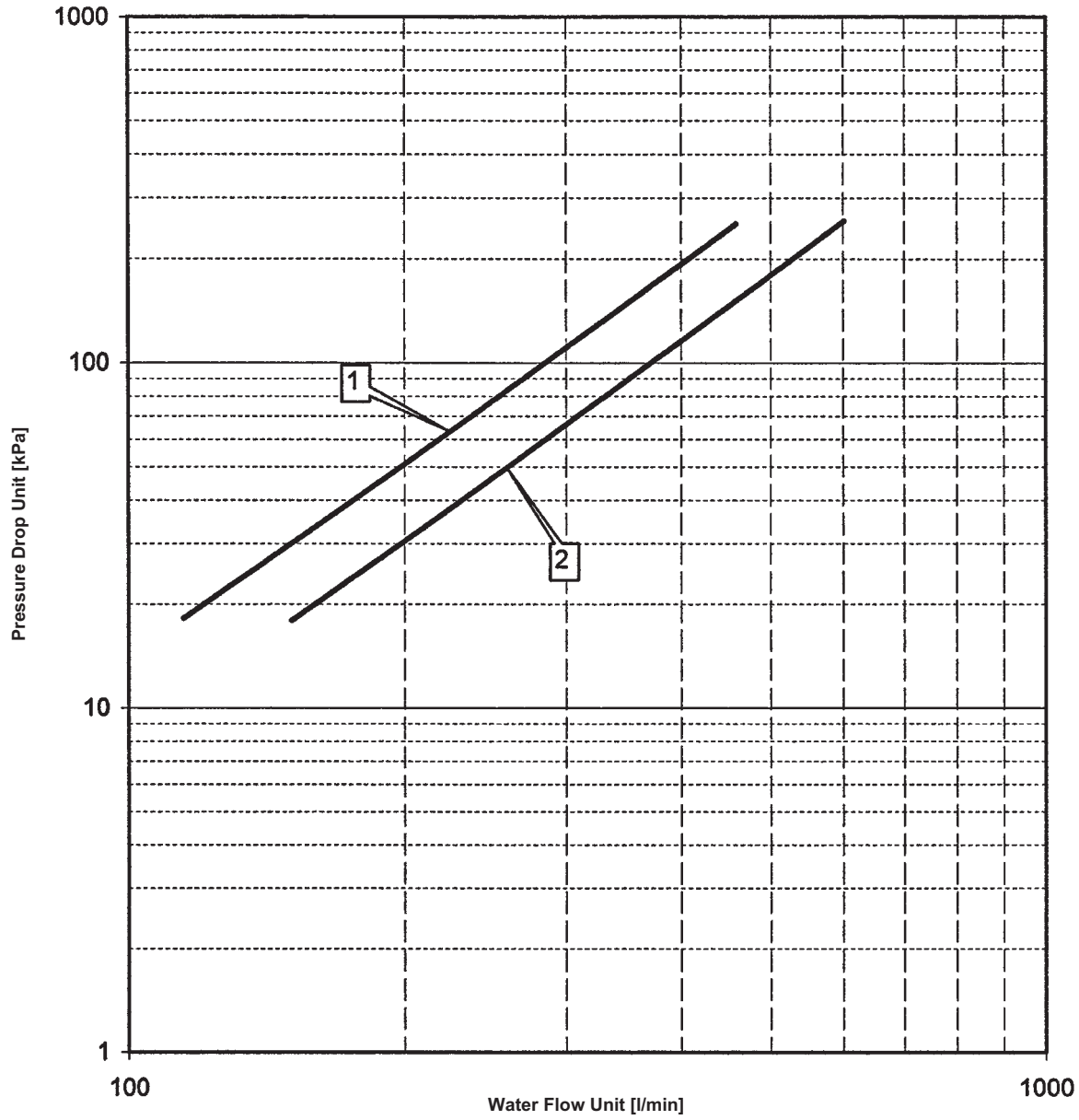
Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57639-5

10 Hydraulic performance

10 - 2 Static pressure drop unit

EWAQ080-100DAYN(N)



1. EWAQ080DAYN* Standard model

2. EWAQ100DAYN* Standard model

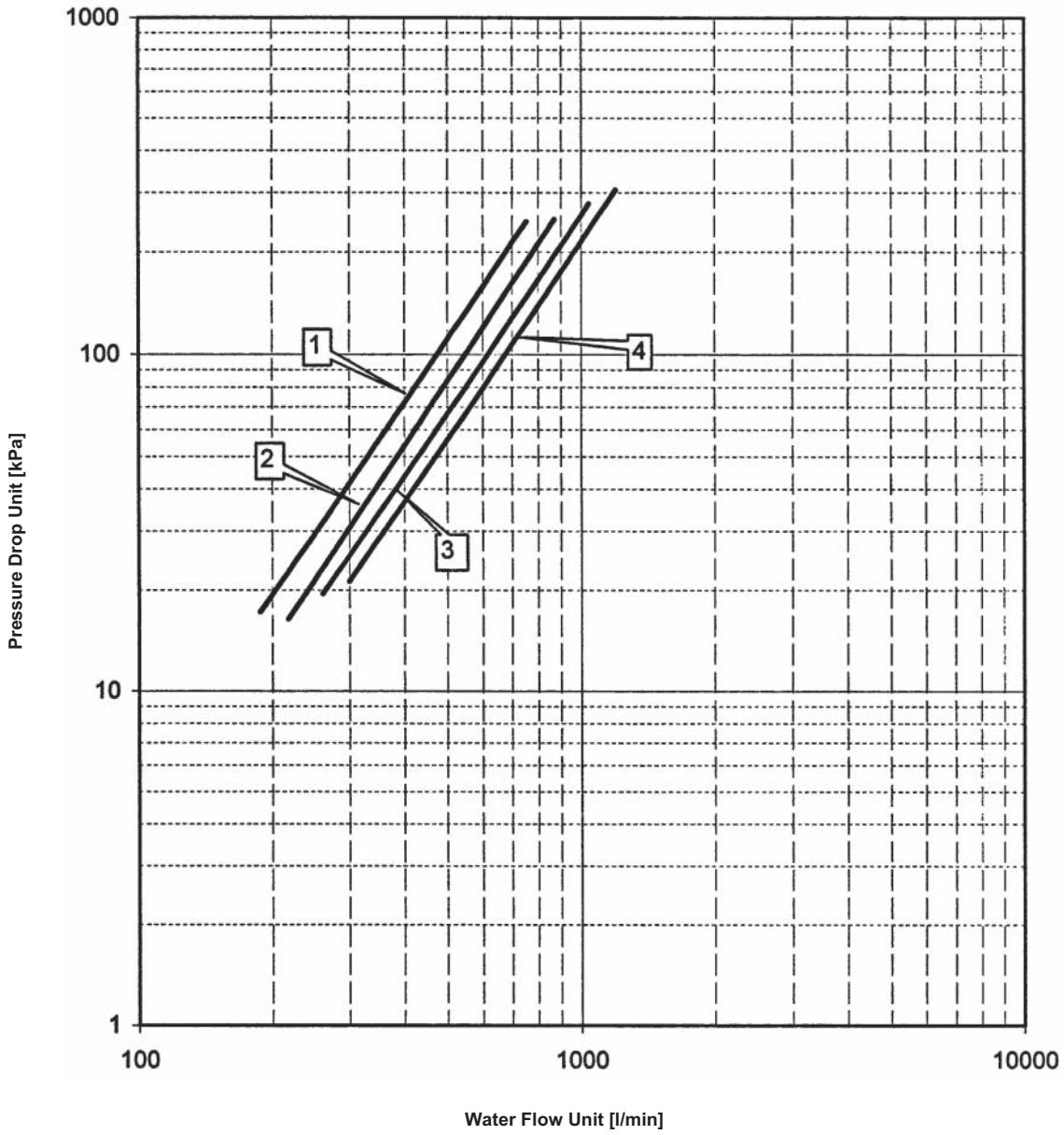
Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57579-7.

10 Hydraulic performance

10 - 2 Static pressure drop unit

EWAQ130-210DAYN(N)



1. EWAQ130DAYN* Standard model
2. EWAQ150DAYN* Standard model
3. EWAQ180DAYN* Standard model
4. EWAQ210DAYN* Standard model

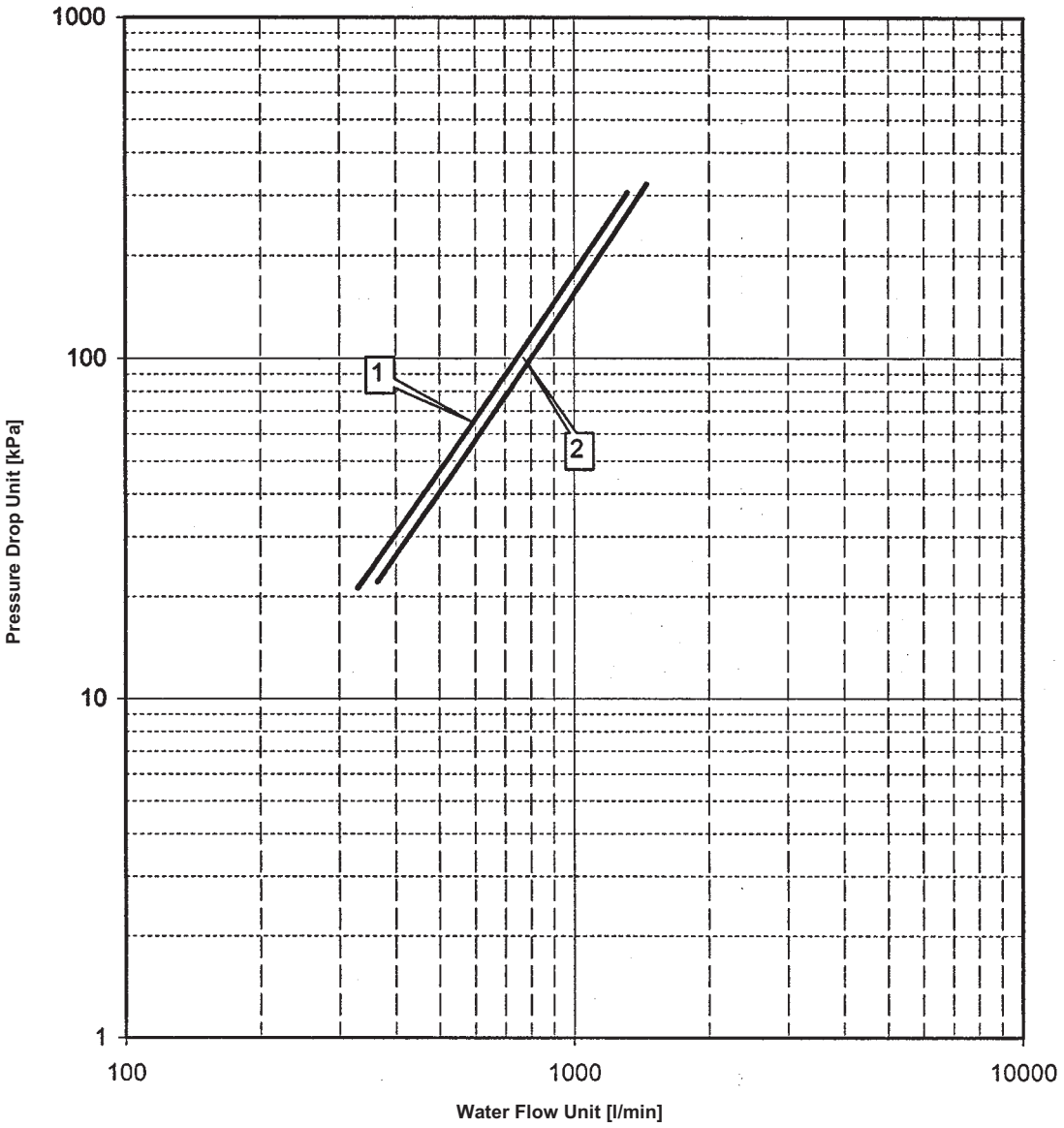
Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57599-7

10 Hydraulic performance

10 - 2 Static pressure drop unit

EWAQ240-260DAYN(N)



1. EWAQ240DAYN* Standard model

2. EWAQ260DAYN* Standard model

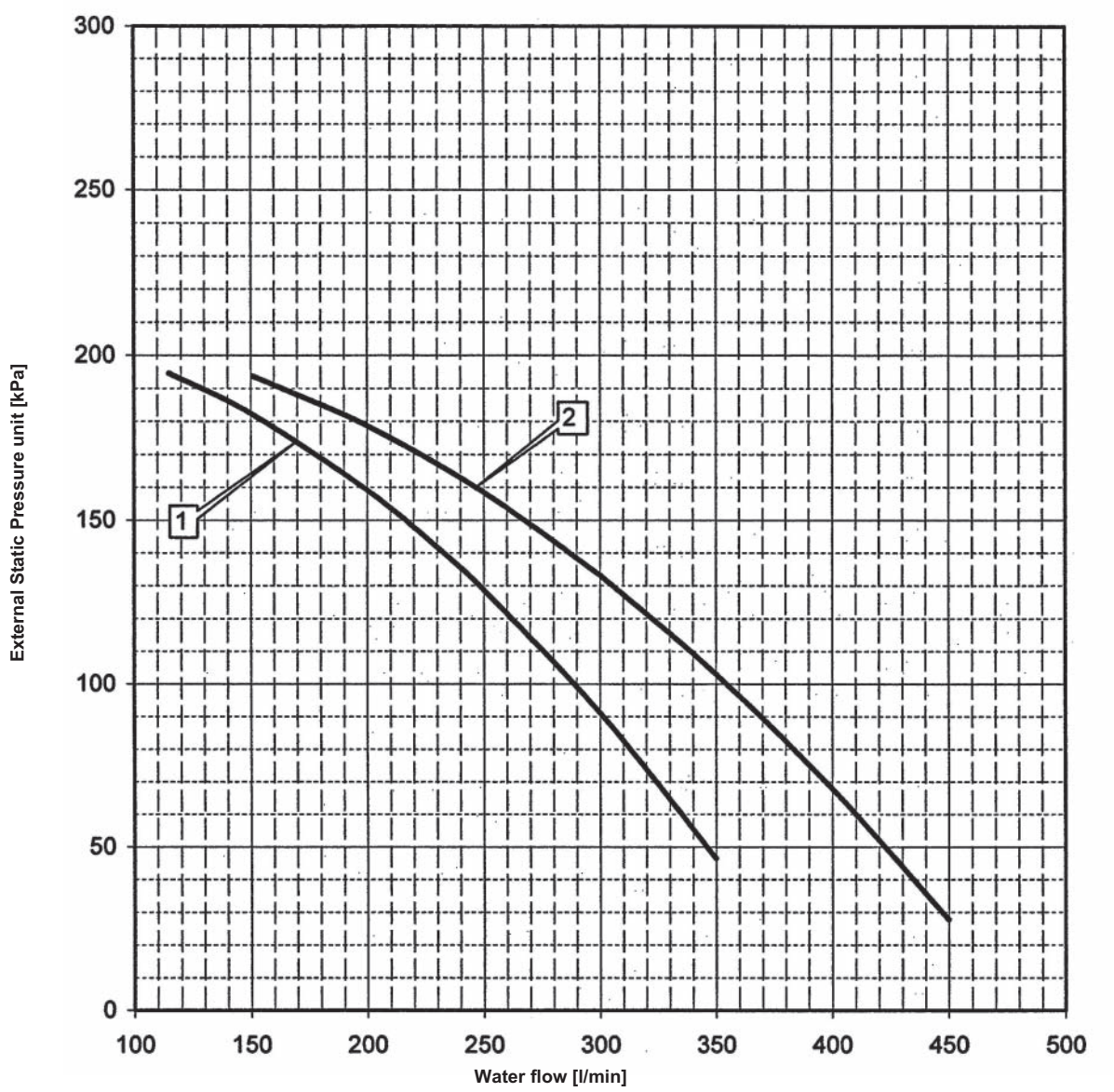
Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57639-7

10 Hydraulic performance

10 - 3 Static pressure drop of units with pumps

EWAQ080-100DAYN*



1. EWAQ080DAYN* + OPSP/OPTP

2. EWAQ100DAYN* + OPSP/OPTP

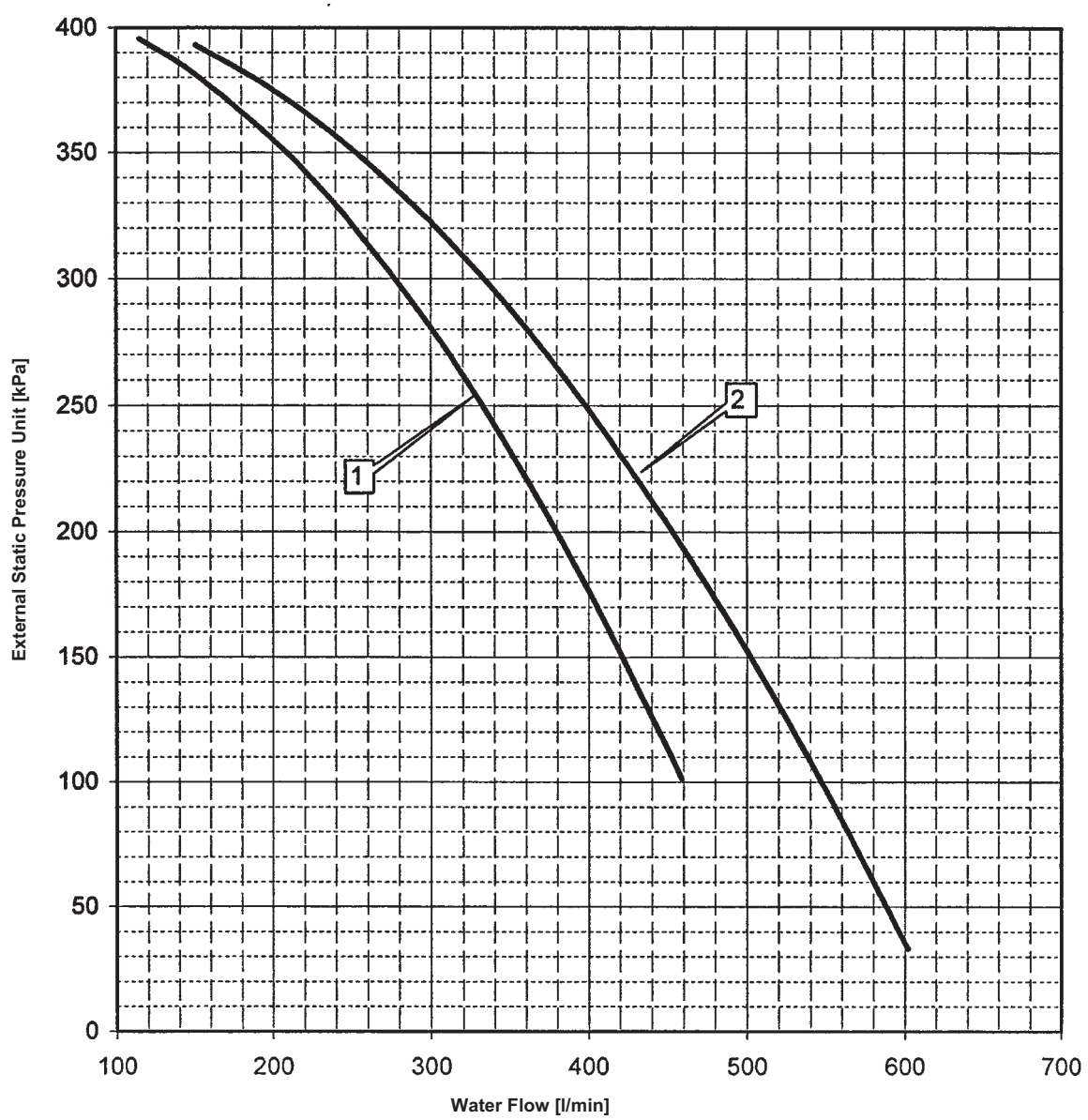
Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57579-4A

10 Hydraulic performance

10 - 3 Static pressure drop of units with pumps

EWAQ080-100DAYN(OPHP)



1. EWAQ080DAYN* + OPHP

2. EWAQ100DAYN* + OPHP

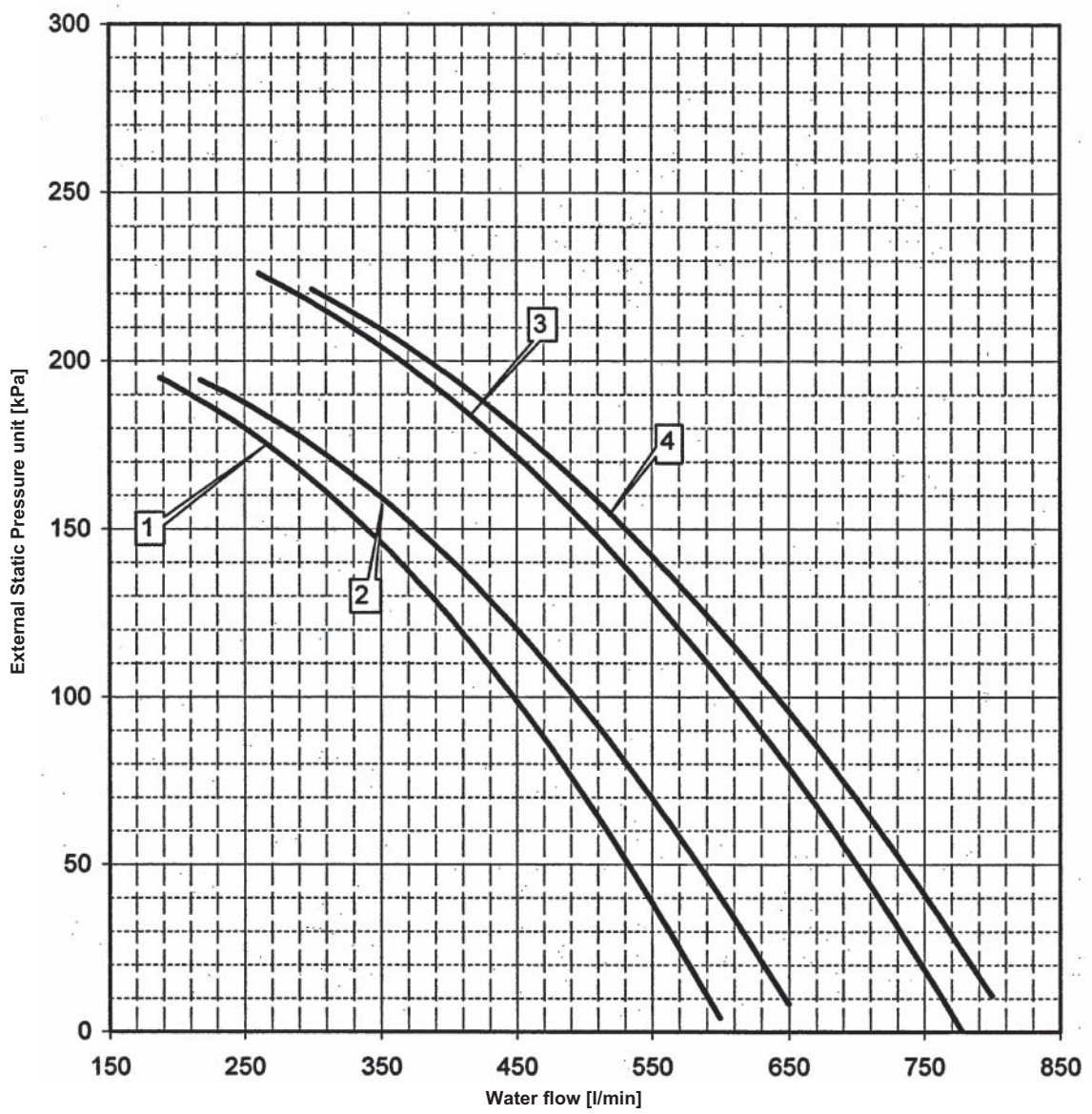
Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57579-9.

10 Hydraulic performance

10 - 3 Static pressure drop of units with pumps

EWAQ130-210DAYN*



1. EWAQ130DAYN* + OPSP/OPTP
2. EWAQ150DAYN* + OPSP/OPTP
3. EWAQ180DAYN* + OPSP/OPTP
4. EWAQ210DAYN* + OPSP/OPTP

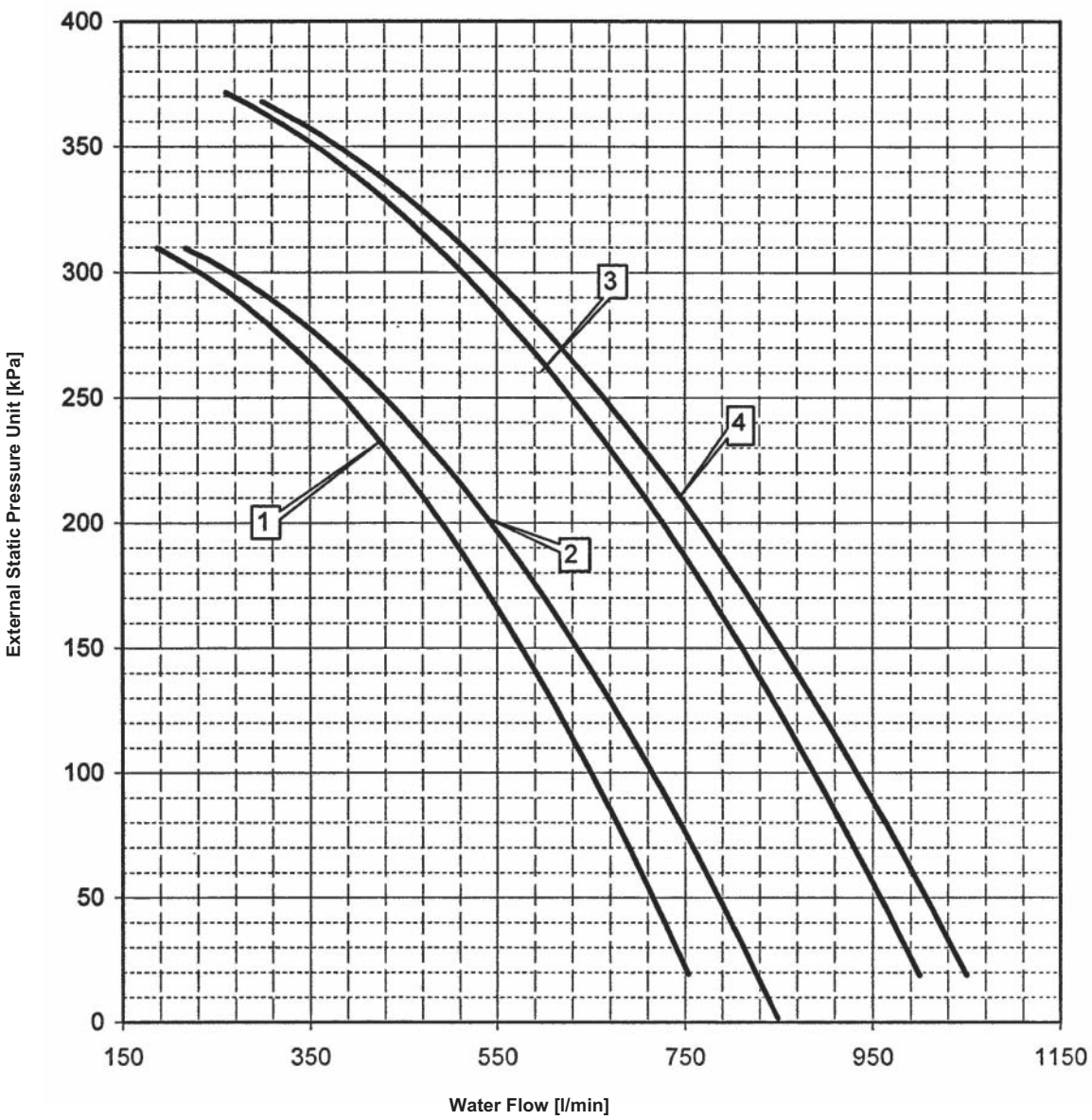
Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57599-4A

10 Hydraulic performance

10 - 3 Static pressure drop of units with pumps

EWAQ130-210DAYN (OPHP)



1. **EWAQ130DAYN* + OPHP**
2. **EWAQ150DAYN* + OPHP**
3. **EWAQ180DAYN* + OPHP**
4. **EWAQ210DAYN* + OPHP**

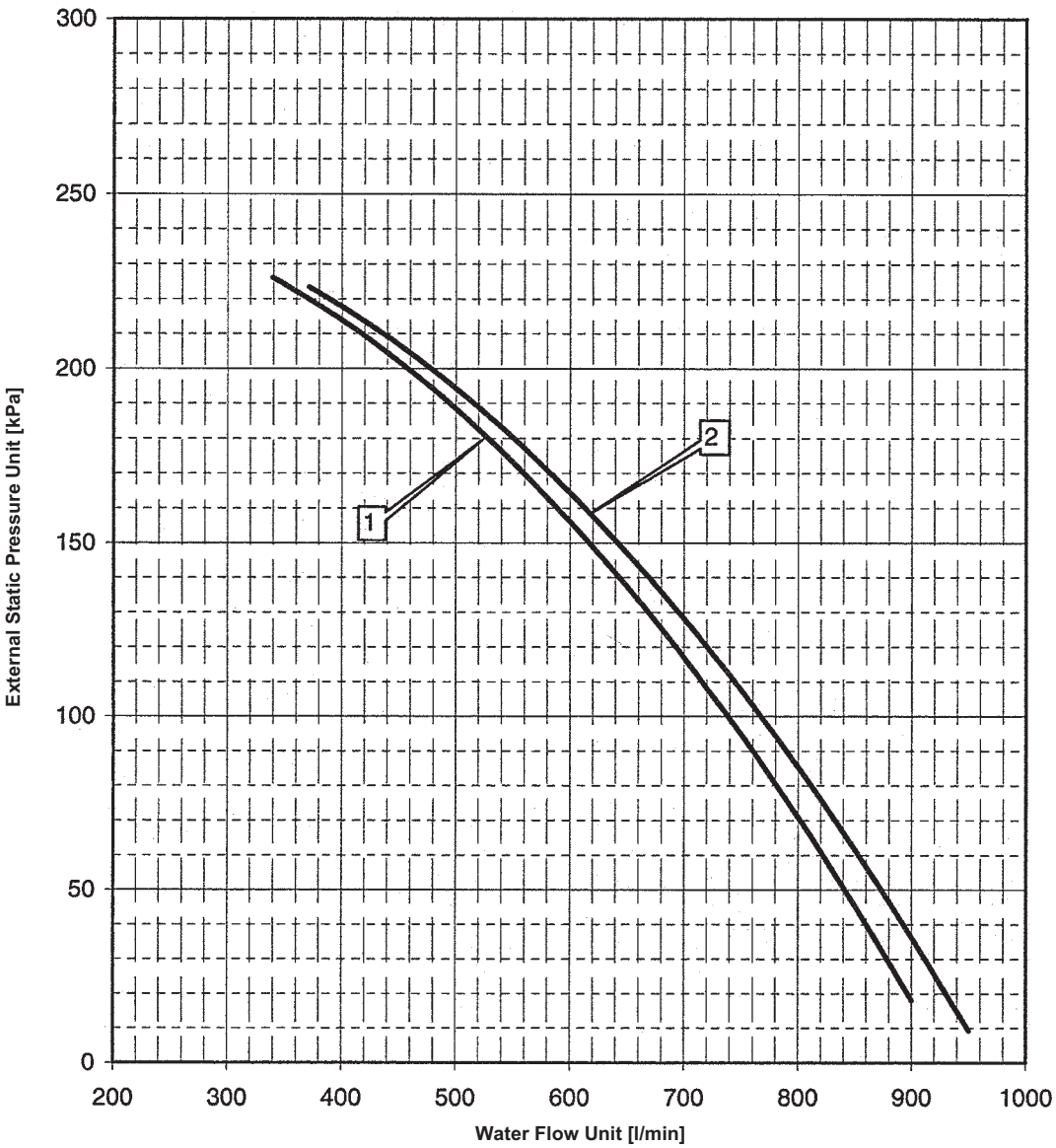
Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57599-9

10 Hydraulic performance

10 - 3 Static pressure drop of units with pumps

EWAQ240-260DAYN*



1. EWAQ240DAYN* + OPSP/OPTP

2. EWAQ260DAYN* + OPSP/OPTP

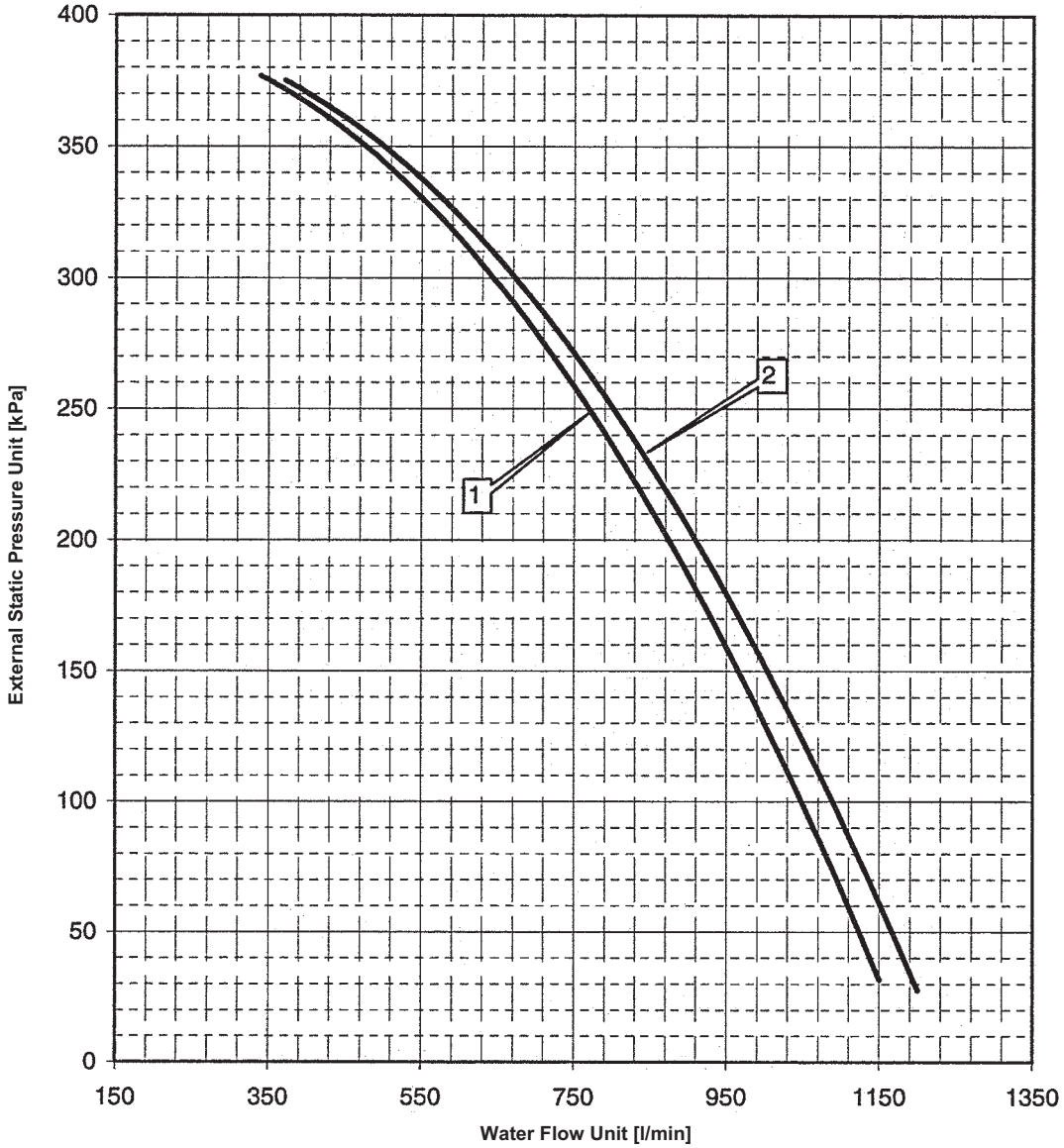
Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57639-4B

10 Hydraulic performance

10 - 3 Static pressure drop of units with pumps

EWAQ240-260DAYN(OPHP)



1. EWAQ240DAYN* + OPHP

2. EWAQ260DAYN* + OPHP

Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57639-9A

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1 Specifications

1-1 Technical Specifications				EWYQ080DAYN	EWYQ100DAYN	EWYQ130DAYN	EWYQ150DAYN	EWYQ180DAYN	EWYQ210DAYN	EWYQ230DAYN	EWYQ250DAYN
Capacity (Eurovent)	Cooling	Nominal	kW	77	100	136	145	183	211	231	252
	Heating	Nominal	kW	87.7	114	149	165	199	225	258	281
Capacity Steps			%	0-50-100	0-50-100	0-25-50-75-100	0-25-50-75-100	21/29-43/50/57-71/79-100	0-25-50-75-100	22/28-44/50/56-72/78-100	0-25-50-75-100
Nominal input (Eurovent)	Cooling		kW	26.5	36.2	47.6	55.7	63.8	75.3	82.2	93.5
	Heating		kW	30.0	38.1	49.6	58.8	68.0	77.0	84.2	96.6
EER				2.91	2.76	2.86	2.60	2.87	2.80	2.81	2.70
COP (Eurovent)				2.92	2.99	3.00	2.81	2.93	2.92	3.06	2.91
ESEER				4.00	3.81	4.31	4.07	4.33	4.23	4.20	4.00
Casing	Colour			Ivory white/Munsell code 5Y7.5/1							
	Material			Polyester painted galvanised steel plate							
Dimensions	Unit	Height	mm	2,311							
		Width	mm	2,000							
		Depth	mm	2,566	2,566	2,631	2,631	3,081	3,081	4,850	4,850
Weight	Unit		kg	1,400	1,450	1,550	1,600	1,850	1,900	3,200	3,300
	Operating Weight		kg	1,415	1,465	1,567	1,619	1,875	1,927	3,239	3,342
	Gross weight		kg	1,450	1,500	1,600	1,650	1,900	1,950	3,250	3,350
Water Heat Exchanger	Type			Brazed plate							
	Filter	Type		Strainer galvanized							
		Diameter perforations	mm	1	1	1	1	1	1	1	1
	Minimum water volume in the system		l	393	511	334	370	446	504	578	629
	Water flow rate	Min	l/min	110	143	195	208	262	302	331	361
		Max	l/min	503	654	854	946	1,141	1,290	1,479	1,611
	Nominal Water Flow	Cooling	l/min	221	287	390	416	525	605	662	722
		Heating	l/min	251	327	427	473	570	645	740	806
Nominal water pressure drop	Cooling	Total	kPa	36	36	43	38	41	44	39	38
	Heating	Total	kPa	47	46	51	49	48	50	48	46
Water Heat Exchanger	Insulation material			Foamed synthetic elastomer							
	Model	Quantity		1	1	1	1	1	1	1	1
		Model		PT120	PT120	DV47HP	DV47HP	DV58HP	DV58HP	DV58HP	DV58HP
Air heat exchanger	Type			Cross fin coil / Hi-Xss tubes and PE coated							
	Rows			2	2	3	3	3	3	3	3
	Stages			56	56	48	56	56	56	48	48
	Fin Pitch		mm	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
	Face Area		m²	2.46	2.46	2.11	2.46	3.02	3.02	2.11	2.11
	No. of coils			4	4	4	4	4	4	8	8
Hydraulic components	Unit water volume		l	15	15	17	19	25	27	39	42
	Nominal water pressure drop unit	Cooling	kPa	42	43	55	51	61	70	70	73
		Heating	kPa	53	56	65	66	72	79	86	91
Fan	Drive			Direct drive							
	Nominal air flow		m³/min	780	780	800	860	1,290	1,290	1,600	1,600
	Model	Quantity		4	4	4	4	6	6	8	8
		Speed	rpm	880	880	900	970	970	970	900	900
		Motor Output	W	500	500	600	1000	1000	1000	600	600
		Discharge direction		Vertical							
Compressor	Type			Scroll compressor							
	Refrigerant oil type			FVC68D							
	Refrigerant oil charge		l	6.7	6.7	3.3	6.7	6.7	6.7	6.7	6.7
	Model	Quantity		2	2	4	4	2	4	2	4
		Model		SJ180	SJ240	SJ161	SJ180	SJ180	SJ240	SJ240	SJ300
		Speed	rpm	2900	2900	2900	2900	2900	2900	2900	2900
		Quantity		-				2	-	2	-
		Model						SJ240		SJ300	
		Speed	rpm					2900		2900	
Sound level	Sound Power	Cooling	dBA	86	86	88	89	90	90	91	91

1 Specifications

1-1 Technical Specifications			EWYQ080DAYN	EWYQ100DAYN	EWYQ130DAYN	EWYQ150DAYN	EWYQ180DAYN	EWYQ210DAYN	EWYQ230DAYN	EWYQ250DAYN
Refrigerant circuit	Refrigerant type		R-410A							
	Refrigerant charge	kg	33	37	22	22	32	32	39	39
		kg			22	22	32	32	39	39
	No of circuits		1	1	2	2	2	2	2	2
	Refrigerant control		Electronic expansion valve							
Piping connections	Water heat exchanger inlet / outlet		3"OD	3"OD	3"OD	3"OD	3"OD	3"OD	3"	3"
	Water heat exchanger drain		1/2"G	1/2"G	1/2"G	1/2"G	1/2"G	1/2"G	1/2"G	1/2"G
Safety Devices			High pressure switch							
			Pressure relief valve							
			Low pressure safety							
			Freeze up protection							
			Flowswitch							
			Discharge temperature protector							
			Reverse phase protector							
			Electronic protection module compressors		Electronic protection module compressors (only for SJ180 SJ240)				Electronic protection module compressors	
			Overcurrent relays for compressors and fans							
Notes			Nominal cooling capacity at Eurovent conditions: Evaporator 12°C/7°C; ambient 35°C							
			Nominal cooling power input at Eurovent conditions: Evaporator 12°C/7°C; ambient 35°C (=Power input compressors + fans + electrical circuit)							
			Minimum required watervolume for standard thermostat settings and at nominal conditions							
			Nominal heating capacity at Eurovent conditions: Evaporator 40°C/45°C, ambient: drybulb 7°C, wetbulb 6°C							
			Nominal heating power input at Eurovent concitions: Evaporator 40°C/45°C, ambient: drybulb 7°C, wetbulb 6°C (= Power input compressors+fans+electrical circuit)							

1-2 Electrical Specifications				EWYQ080DAYN	EWYQ100DAYN	EWYQ130DAYN	EWYQ150DAYN	EWYQ180DAYN	EWYQ210DAYN	EWYQ230DAYN	EWYQ250DAYN
Power Supply	Phase			3~							
	Frequency		Hz	50							
	Voltage		V	400							
	Voltage Tolerance	Minimum	%	-10%							
		Maximum	%	+10%							
Unit	Starting Current		A	201 (max. 240)	221 (max. 272)	161 (max. 269)	199 (max. 320)	221 (max. 357)	221 (max. 368)	266 (max. 440)	266 (max. 468)
	Nominal Running Current Cooling		A	60	72	88	113	131	144	162	181
	Maximum Running Current		A	96	120	160	177	209	233	262	290
	Recommended fuses according to IEC standard 269-2			3x125gL	3x160gL	3x200gL	3x200gL	3x250gL	3x250gL	3x300gL	3x355gL
Fan	Starting Method			Direct on line							
	Maximum Running Current		A	1,5	1,5	1,4	2,1	2,1	2,1	1,6	1,6
Compressor	Starting current		A	195	215	158	195	195/215	215	215/260	260
	Nominal running current (RLA)		A	25/25	31/31	19/19	25/25	25/31	31/31	31/40	40/40
	Maximum Running Current		A	39	51	35	39	39/51	51	51/65	65
	Starting Method			Direct on line							
Control Circuit	Phase			1~							
	Frequency		Hz	50							
	Voltage		V	230V (supplied by factory installed transformers)							
	Crankcase heater (E1/2HC)		W	2x75	2x75	4x65	4x75	4x75	4x75	4x75	4x75
Notes				Initial starting current = Maximum running current 4 fans (1 circuit) + starting current 1 compressor		Starting current of the unit = Maximum running current 2 fans (1 circuit) + starting current 1 compressor		Starting current of the unit = Maximum running current 3fans (1 circuit) + starting current 1 compressor		Starting current of the unit = Maximum running current 4 fans (1 circuit) + starting current 1 compressor	
				Max. starting current of the unit = Maximum running current 4 fans + max. running current 3 compressors + starting current 1 compressor		Max. starting current of the unit = Maximum running current 4 fans + max. running current 3 compressors + starting current 1 compressor		Max. starting current of the unit = Maximum running current 6 fans + max. running current 3 compressors + starting current 1 compressor		Max. starting current of the unit = Maximum running current 8 fans + max. running current 3 compressors + starting current 1 compressor	

1 Specifications (Options)

EWYQ080-100DAYN

Technical specifications options				
OPSP				
Units			**EWYQ080DAYN***	**EWYQ100DAYN***
WEIGHT	Additional machine weight	kg	250	250
	Additional operation weight	kg	268	268
	Additional gross weight	kg	250	250
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP50-240/2	TP50-240/2
	Nominal Static Height Unit cooling	kPa	173	154
HYDRAULIC COMPONENTS	Additional unit water volume	l	18	18
	Expansion vessel	l	35	
	Pre-charge pressure exp. vessel	bar	1,5	
	Safety valve	bar	3	
OPSP + OPBT				
Units			**EWYQ080DAYN***	**EWYQ100DAYN***
WEIGHT	Additional machine weight	kg	300	300
	Additional operation weight	kg	508	508
	Additional gross weight	kg	300	300
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP50-240/2	TP50-240/2
	Nominal Static Height Unit cooling	kPa	173	154
HYDRAULIC COMPONENTS	Buffertank	l	190	190
	Additional unit water volume	l	208	208
	Expansion vessel	l	35	
	Pre-charge pressure exp. vessel	bar	1,5	
	Safety valve	bar	3	
OPHP				
Units			**EWYQ080DAYN***	**EWYQ100DAYN***
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP50-430/2	TP50-340/2
	Nominal Static Height Unit	kPa	365	348
OPTP				
Units			**EWYQ080DAYN***	**EWYQ100DAYN***
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP50-240/2	TP50-240/2
	Nominal Static Height Unit cooling	kPa	173	154

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EWYQ080-100DAYN

Electrical specifications options				
OPSP / OPTP				
Units			**EWYQ080DAYN***	**EWYQ100DAYN***
STD PUMP	Starting method		Direct On-Line	
	Power	kW	2.2	2.2
	Maximum running current	A	4.45	4.45
	Starting current	A	42	42
OPHP				
Units			**EWYQ080DAYN***	**EWYQ100DAYN***
HIGH ESP PUMP	Starting method		Direct On-Line	
	Power	W	5.5	5.5
	Maximum running current	A	11.2	11.2
	Starting current	A	131	131
OP10				
Units			**EWYQ080DAYN***	**EWYQ100DAYN***
HEATER TAPE	Supply Voltage	V	230+/-10%	
	Recommended fuses	A	2 x 10A	
	Power standard model		1 x 300 W	1 x 300 W
	Power model with pump		2 x 300 W	2 x 300 W
	Power model with pump and OPBT		2 x 300 W + 1 x 150 W	2 x 300 W + 1 x 150 W

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NOTES

1 Initial starting current=Maximum running current 4 fans (1 circuit) + starting current 1 compressor

2 Maximum starting current=Maximum running current 4 fans+Maximum running current 3 compressors+Starting current 1 compressor

1 Specifications (Options)

EWYQ130-150DAYN

Technical specifications options				
OPSP				
Units			**EWYQ130DAYN***	**EWYQ150DAYN***
WEIGHT	Additional machine weight	kg	250	250
	Additional operation weight	kg	286	286
	Additional gross weight	kg	250	250
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-260/2	TP65-260/2
	Nominal Static Height Unit cooling	kPa	141	141
HYDRAULIC COMPONENTS	Additional unit water volume	l	36	36
	Expansion vessel	l	35	
	Pre-charge pressure exp. vessel	bar	1,5	
	Safety valve	bar	3	
OPSP + OPBT				
Units			**EWYQ130DAYN***	**EWYQ150DAYN***
WEIGHT	Additional machine weight	kg	300	300
	Additional operation weight	kg	526	526
	Additional gross weight	kg	300	300
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-260/2	TP65-260/2
	Nominal Static Height Unit cooling	kPa	141	141
HYDRAULIC COMPONENTS	Buffertank	l	190	190
	Additional unit water volume	l	226	226
	Expansion vessel	l	35	
	Pre-charge pressure exp. vessel	bar	1,5	
	Safety valve	bar	3	
OPHP				
Units			**EWYQ130DAYN***	**EWYQ150DAYN***
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-340/2	TP65-340/2
	Nominal Static Height Unit	kPa	261	261
OPTP				
Units			**EWYQ130DAYN***	**EWYQ150DAYN***
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-260/2	TP65-260/2
	Nominal Static Height Unit cooling	kPa	141	141

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EWYQ130-150DAYN

Electrical specifications options				
OPSP / OPTP				
Units			**EWYQ130DAYN***	**EWYQ150DAYN***
STD PUMP	Starting method		Direct On-Line	
	Power	kW	3kW	3kW
	Maximum running current	A	6.3	6.3
	Starting current	A	58	58
OPHP				
Units			**EWYQ130DAYN***	**EWYQ150DAYN***
HIGH ESP PUMP	Starting method		Direct On-Line	
	Power	W	5.5kW	5.5kW
	Maximum running current	A	11.2	11.2
	Starting current	A	131	131
OP10				
Units			**EWYQ130DAYN***	**EWYQ150DAYN***
HEATER TAPE	Supply Voltage	V	230+/-10%	
	Recommended fuses	A	2 x 10A	
	Power standard model		1 x 300 W	1 x 300 W
	Power model with pump		2 x 300 W	2 x 300 W
	Power model with pump and OPBT		2 x 300 W + 1 x 150 W	2 x 300 W + 1 x 150 W

3TW57671-1C

NOTES

1 Initial starting current=Maximum running current 2 fans (1 circuit) + starting current 1 compressor

2 Maximum starting current=Maximum running current 4 fans+Maximum running current 3 compressors+Starting current 1 compressor

1 Specifications (Options)

EWYQ180-210DAYN

Technical specifications options				
OPSP				
Units			**EWYQ180DAYN***	**EWYQ210DAYN***
WEIGHT	Additional machine weight	kg	250	250
	Additional operation weight	kg	286	286
	Additional gross weight	kg	250	250
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-260/2	TP65-260/2
	Nominal Static Height Unit cooling	kPa	152	128
HYDRAULIC COMPONENTS	Additional unit water volume	l	36	36
	Expansion vessel	l	35	
	Pre-charge pressure exp. vessel	bar	1,5	
	Safety valve	bar	3	
OPSP + OPBT				
Units			**EWYQ180DAYN***	**EWYQ210DAYN***
WEIGHT	Additional machine weight	kg	300	300
	Additional operation weight	kg	526	526
	Additional gross weight	kg	300	300
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-260/2	TP65-260/2
	Nominal Static Height Unit cooling	kPa	152	128
HYDRAULIC COMPONENTS	Buffertank	l	190	190
	Additional unit water volume	l	226	226
	Expansion vessel	l	35	
	Pre-charge pressure exp. vessel	bar	1,5	
	Safety valve	bar	3	
OPHP				
Units			**EWYQ180DAYN***	**EWYQ210DAYN***
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-410/2	TP65-410/2
	Nominal Static Height Unit	kPa	306	286
OPTP				
Units			**EWYQ180DAYN***	**EWYQ210DAYN***
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-260/2	TP65-260/2
	Nominal Static Height Unit cooling	kPa	152	128

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EWYQ180-210DAYN

Electrical specifications options				
OPSP / OPTP				
Units			**EWYQ180DAYN***	**EWYQ210DAYN***
STD PUMP	Starting method		Direct On-Line	
	Power	kW	4kW	4kW
	Maximum running current	A	8	8
	Starting current	A	98	98
OPHP				
Units			**EWYQ180DAYN***	**EWYQ210DAYN***
HIGH ESP PUMP	Starting method		Direct On-Line	
	Power	W	7.5kW	7.5kW
	Maximum running current	A	15.2	15.2
	Starting current	A	169	169
OP10				
Units			**EWYQ180DAYN***	**EWYQ210DAYN***
HEATER TAPE	Supply Voltage	V	230+/-10%	
	Recommended fuses	A	2 x 10A	
	Power standard model		1 x 300 W	1 x 300 W
	Power model with pump		2 x 300 W	2 x 300 W
	Power model with pump and OPBT		2 x 300 W + 1 x 150 W	2 x 300 W + 1 x 150 W

3TW57691-1C

NOTES

1 Initial starting current=Maximum running current 3 fans (1 circuit) + starting current 1 compressor

2 Maximum starting current=Maximum running current 6 fans+Maximum running current 3 compressors+Starting current 1 compressor

1 Specifications (Options)

EWYQ230-250DAYN

Technical specifications options				
OPSP				
Units			**EWYQ230DAYN***	**EWYQ250DAYN***
WEIGHT	Additional machine weight	kg	250	250
	Additional operation weight	kg	271	271
	Additional gross weight	kg	250	250
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-260/2	TP65-260/2
	Nominal Static Height Unit cooling	kPa	143	127
HYDRAULIC COMPONENTS	Additional unit water volume	l	21	21
	Expansion vessel	l	50	
	Pre-charge pressure exp. vessel	bar	1,5	
	Safety valve	bar	3	
OPSP + OPBT				
Units			**EWYQ230DAYN***	**EWYQ250DAYN***
WEIGHT	Additional machine weight	kg	300	300
	Additional operation weight	kg	511	511
	Additional gross weight	kg	300	300
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-260/2	TP65-260/2
	Nominal Static Height Unit cooling	kPa	143	127
HYDRAULIC COMPONENTS	Buffertank	l	190	190
	Additional unit water volume	l	211	211
	Expansion vessel	l	50	
	Pre-charge pressure exp. vessel	bar	1,5	
	Safety valve	bar	3	
OPHP				
Units			**EWYQ230DAYN***	**EWYQ250DAYN***
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-410/2	TP65-410/2
	Nominal Static Height Unit	kPa	303	290
OPTP				
Units			**EWYQ230DAYN***	**EWYQ250DAYN***
PUMP	Type		Single-stage-in-line-pumps	Single-stage-in-line-pumps
	Quantity		1	1
	Model		TP65-260/2	TP65-260/2
	Nominal Static Height Unit cooling	kPa	143	127

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EWYQ230-250DAYN

Electrical specifications options				
OPSP / OPTP				
Units			**EWYQ230DAYN***	**EWYQ250DAYN***
STD PUMP	Starting method		Direct On-Line	
	Power	kW	4.0	4.0
	Maximum running current	A	8.0	8.0
	Starting current	A	98	98
OPHP				
Units			**EWYQ230DAYN***	**EWYQ250DAYN***
HIGH ESP PUMP	Starting method		Direct On-Line	
	Power	kW	7.5	7.5
	Maximum running current	A	15.2	15.2
	Starting current	A	169	169
OP10				
Units			**EWYQ230DAYN***	**EWYQ250DAYN***
HEATER TAPE	Supply Voltage	V	230+/-10%	
	Recommended fuses	A	2 x 10A	
	Power standard model		1 x 300 W	1 x 300 W
	Power model with pump		2 x 300 W	2 x 300 W
	Power model with pump and OPBT		2 x 300 W + 1 x 150 W	2 x 300 W + 1 x 150 W

3TW57711-1C

NOTES

1 Initial starting current=Maximum running current 4 fans (1 circuit) + starting current 1 compressor

2 Maximum starting current=Maximum running current 8 fans+Maximum running current 3 compressors+Starting current 1 compressor

2 Options

Optional equipment for EWYQ-DAYN

Capacity: 080-250 kW

EWYQ080DAYNN EWYQ100DAYNN EWYQ130DAYNN EWYQ150DAYNN EWYQ180DAYNN EWYQ210DAYNN EWYQ230DAYNN EWYQ250DAYNN

Option number	Option description	Unit size								Availability
		080	100	130	150	180	210	230	250	
	Standard unit	o	o	o	o	o	o	o	o	
OPSC	Single pump contactor	o	o	o	o	o	o	o	o	Factory mounted
OPTC	Twin pump contactor	o	o	o	o	o	o	o	o	Factory mounted
OPSP	Single pump	o	o	o	o	o	o	o	o	Factory mounted
OPTP	Twin pump (1 pump house, dual motor)	o	o	o	o	o	o	o	o	Factory mounted
OPHP	high ESP pump (single pump only)	o	o	o	o	o	o	o	o	Factory mounted
OPBT	Buffer tank	o	o	o	o	o	o	o	o	Factory mounted
OPIF	Inverter fans for low ambient (-15 °C)	o	o	o	o	o	o	o	o	Factory mounted
OPZL	Glycol 0°C/-10°C	o	o	o	o	o	o	o	o	Factory mounted
OP03	Dual pressure relief valve	o	o	o	o	o	o	o	o	Factory mounted
OP10	evaporator heater tape	o	o	o	o	o	o	o	o	Factory mounted
OP12	option valves (discharge-, liquid line- and suction stop valve)	o (S)	o (S)	o (S)	o (S)	o (S)	o (S)	o (S)	o (S)	Factory mounted
OP57	A-meter, V-meter	o	o	o	o	o	o	o	o	Factory mounted
OPLN	Low noise = OPIF + compressorhousing	o	o	o	o	o	o	o	o	Factory mounted
OPCG	Condenser protection grilles	o	o	o	o	o	o	o	o	Factory mounted
	Available kits									
EKLONPG	Gateway for LON*	o	o	o	o	o	o	o	o	Kit
EKBNPG	Gateway for BACNET*	o	o	o	o	o	o	o	o	Kit
EKACPG	Adress card including	o	o	o	o	o	o	o	o	Kit
	Daikin Integrated Chiller Network (DICN)									
	Serial Communication (Modbus)									
EKRUPG	Remote user interface	o	o	o	o	o	o	o	o	Kit
EKGN210	Waterpipe kit	o	o	o	o	o	o	-	-	Kit
EKGN260	Waterpipe kit	-	-	-	-	-	-	o	o	Kit

Notes

o Available

\- Not available

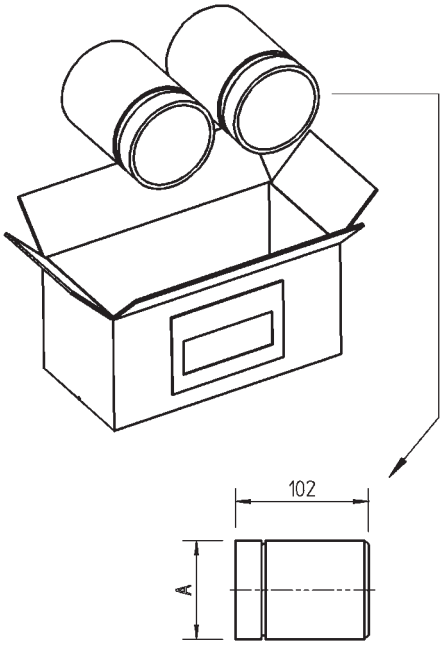
(S) option required for swedish national law SNFS1992:16

* To install EKLONPG & EKBNPG => EKACPG needs to be installed on the unit.
For the EKLONPG & EKBNPG design guide, please contact your local dealer.

3TW57659-8B

2 Options

Content :2 counterpipes for welding onto fieldpiping



	Weight
EKGN210	2.0 kg
EKGN260	2.5 kg

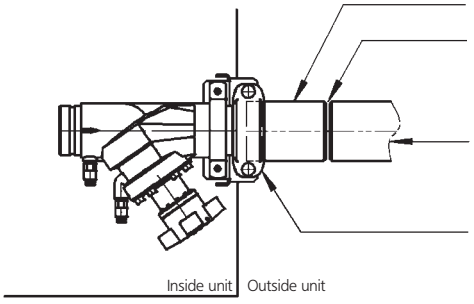
Box : 200 x 100 x 100

* Material : Blank steel
* Ps = 10 bar

	Ø	A
EKGN210	3" OD	76.1
EKGN260	3"	88.9

EWA/YQ080DAYN*	3" OD
EWA/YQ100DAYN*	
EWA/YQ130DAYN*	
EWA/YQ150DAYN*	
EWA/YQ180DAYN*	
EWA/YQ210DAYN*	
EWAQ240DAYN*	3"
EWAQ260DAYN*	
EWYQ230DAYN*	
EWYQ250DAYN*	

Mounting instructions :



Counterpipe : in this kit

Weld before connection victaulic coupling

To be painted after welding

Fieldpiping

Victaulic coupling : delivered with unit

4TW58009-1

3 Capacity tables

3 - 1 Cooling capacity tables

EWYQ080-250DAYN(N-P-B)

Cooling

Tamb (°C)		20		25		30		35		40		43	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
5	080	83.1	20.4	79.5	22.1	75.7	24.1	71.7	26.2	64.8	28.7	59.5	30.3
	100	109	26.8	104	29.4	99.2	32.4	93.6	35.8	84.0	39.5	76.9	42.0
	130	148	35.6	142	39.0	135	42.7	127	46.8	117	51.5	109	54.6
	150	161	42.0	154	45.9	145	50.2	137	55.2	125	60.7	117	64.4
	180	199	48.3	190	52.7	181	57.6	171	63.1	159	70.0	151	74.9
	210	234	56.6	223	61.8	211	67.7	198	74.3	183	82.5	173	88.3
	230	252	63.0	241	68.4	230	74.5	217	81.3	195	89.0	179	94
	250	277	71.6	265	77.8	252	84.7	237	92.5	213	101	194	107
7	080	89.1	20.5	85.2	22.3	81.2	24.3	77.0	26.5	69.5	28.9	63.9	30.5
	100	117	27.2	112	29.9	106	32.9	100	36.2	89.8	40.0	82.3	42.5
	130	159	36.3	152	39.8	144	43.5	136	47.6	124	52.3	116	55.4
	150	170	42.5	162	46.4	154	50.8	145	55.7	132	61.3	124	65.0
	180	213	49.0	203	53.6	194	58.3	183	63.8	170	70.7	161	75.6
	210	248	57.6	236	62.8	224	68.7	211	75.3	195	83.5	184	89.4
	230	268	63.9	256	69.3	244	75.4	231	82.2	208	89.9	190	94.9
	250	294	72.5	281	78.8	267	85.8	252	93.5	226	102	207	108
10	080	98.6	20.9	94.5	22.6	90.1	24.6	85.4	26.8	77.1	29.3	70.9	30.9
	100	129	28.0	123	30.6	117	33.6	110	37.0	99.0	40.8	90.7	43.2
	130	175	37.5	167	40.9	159	44.7	150	48.9	137	53.5	128	56.7
	150	185	43.3	177	47.3	168	51.8	158	56.8	144	62.4	135	66.1
	180	235	50.2	224	54.5	214	59.5	202	65.0	188	71.9	178	76.8
	210	271	59.2	258	64.4	245	70.3	231	76.9	213	85.2	201	91.1
	230	292	65.3	280	70.7	267	76.8	252	83.7	227	91.3	208	96.4
	250	321	74.0	307	80.4	292	87.4	275	95.3	247	104	226	110
13	080	109	21.2	104	23.0	100	25.0	94.4	27.2	85.2	29.7	78.4	31.3
	100	142	28.8	135	31.4	128	34.4	121	37.8	109	41.6	100	44.1
	130	192	38.7	184	42.2	174	46.0	164	50.2	150	54.9	140	58.0
	150	203	44.4	193	48.5	184	53.0	173	58.1	158	63.7	147	67.4
	180	258	51.4	247	55.8	235	60.8	222	66.3	206	73.3	195	78.2
	210	296	61.0	282	66.2	267	72.1	251	78.7	232	87.0	219	92.9
	230	319	66.8	305	72.3	291	78.4	275	85.3	284	92.9	227	97.9
	250	350	75.6	334	82.1	318	89.2	300	97.1	269	106	246	112
16	080	120	21.5	115	23.4	110	25.4	104	27.7	93.8	30.2	86.3	31.8
	100	155	29.7	148	32.3	141	35.3	133	38.7	119	42.5	109	45.0
	130	210	40.0	201	43.5	191	47.4	179	51.6	164	56.3	153	59.4
	150	222	45.7	212	49.8	201	54.4	189	59.6	173	65.2	88	32.0
	180	283	52.9	270	57.3	257	62.2	243	67.8	226	74.8	214	79.7
	210	321	63.0	306	68.2	290	74.0	273	80.6	252	89.0	238	94.9
	230	346	68.5	332	74.0	316	80.1	299	87.0	269	94.6	247	100
	250	380	77.4	363	83.9	345	91.1	326	99.1	292	108	267	114
20	080	136	22.1	130	24.0	124	26.0	118	28.3	106	30.9	53.4	15.1
	100	174	31.1	166	33.7	158	36.7	149	40.0	133	43.8	66.8	21.5
	130	236	41.8	225	45.4	213	49.3	201	53.6	183	58.4	93.6	28.5
	150	252	47.6	240	51.9	227	56.7	213	61.9	194	67.7	99.2	33.2
	180	317	55.0	304	59.4	289	64.4	273	70.0	253	77.0	131	38.1
	210	357	66.0	341	71.1	323	77.0	304	83.6	280	91.9	145	45.4
	230	385	71.1	369	76.5	352	82.6	333	89.5	300	97.1	151	47.4
	250	423	79.9	404	86.5	384	93.8	362	102	325	111	163	54.1

Symbols:

CC: Cooling capacity (kW)
PI : Power input (kW)
LWE: Leaving Water Evaporator temperature (°C)
Tamb: Ambient temperature (°C)

3TW57652-1B

NOTES

1 **Cooling capacity (CAP)**
Capacity is according to Eurovent
rating standard 6/C/003-2006 and valid for chilled water range Dt = 3 - 8°C

2 **Power input (kW)**
Power input is total input according to Eurovent
rating standard 6/C/003-2006: Compressor + fans + control circuit

3 **For units with integrated pump**
Values for CC are to be multiplied by 0.99 in order to compensate heat input of the pump

3 Capacity tables

3 - 1 Cooling capacity tables

EWYQ-DAYN(N-P-B)

OPZL

Tamb (°C)		20		25		30		35		40		43	
LWE	Size	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-10	080	50.1	19.4	47.1	21.2	44.2	23.2	41.4	25.4	37.0	27.9		
	100	65	24.5	61	27.1	58.1	29.9	54.6	33.1	48.9	36.7		
	130	91	31.3	87	34.7	82	38.3	77	42.4	71	47.2		
	150	110	39.3	103	43.1	96	47.4	90	52.2	81	57.8		
	180	118	44.7	112	49.0	105	53.9	99	59.3	91	66.0		
	210	145	51.3	137	56.4	129	62.1	121	68.4	111	76.2		
	230	155	57.9	148	63.2	140	69.1	132	75.7	118	83.0		
	250	171	65.9	163	71.7	154	78.2	145	85.5	129	94		
-7	080	55.1	19.5	52.1	21.3	49.1	23.3	46.2	25.5	41.5	28.0		
	100	72	24.8	68	27.5	65	30.3	61	33.6	54.7	37.2		
	130	100	32.0	96	35.4	91	39.0	85	43.1	78	47.8		
	150	119	39.7	112	43.5	105	47.8	98	52.7	89	58.2		
	180	131	45.2	124	49.6	118	54.4	111	59.8	102	66.6		
	210	160	52.1	152	57.3	1743	63.0	134	69.4	124	77.3		
	230	172	58.8	164	64.1	155	70.1	146	76.7	131	84.1		
	250	189	66.9	180	72.8	171	79.4	161	86.8	144	95		
-5	080	58.9	19.6	55.8	21.4	52.8	23.4	49.7	25.5	44.7	28.0	41.0	29.7
	100	77	25.1	73	27.7	70	30.6	66	33.9	58.9	37.5	53.9	39.9
	130	107	32.5	102	35.9	97	39.5	91	43.6	84	48.3	78	51.5
	150	125	40.0	119	43.9	112	48.1	104	53.0	95	58.5	88	62.2
	180	140	45.6	134	50.0	127	54.8	119	60.3	111	67.1	105	71.9
	210	171	52.7	162	57.9	153	63.7	144	70.1	132	78.1	125	83.8
	230	184	59.4	175	64.7	166	70.7	157	77.4	141	84.9	129	89.8
	250	202	67.5	193	73.5	183	80.2	172	87.6	154	96	141	101
-2	080	65	19.8	62	21.6	59	23.5	55.6	25.7	50.1	28.2	46.0	29.8
	100	86	25.5	82	28.2	78	31.1	73	34.4	66	38.1	60	40.5
	130	118	33.4	113	36.7	107	40.4	101	44.5	92	49.2	86	52.3
	150	135	40.5	128	44.4	121	48.7	114	53.5	103	59.0	96	62.7
	180	156	46.3	149	50.7	141	55.5	133	61.0	124	67.8	117	72.7
	210	188	53.7	179	58.9	169	64.7	159	71.2	146	79.3	138	85.1
	230	202	60.3	193	65.7	184	71.8	174	78.5	156	86.0	143	91.0
	250	222	68.7	213	74.7	202	81.5	190	89.0	170	97	156	103
2	080	75	20.1	71	29.7	68	23.8	64	26.0	58.1	28.4	53.4	30.0
	100	99	26.2	94	28.8	89	31.8	84	35.1	76	38.9	69	41.3
	130	134	34.6	129	38.0	122	41.6	115	45.7	106	50.4	99	53.6
	150	149	41.3	142	45.2	135	49.65	126	54.4	115	59.9	108	63.6
	180	179	47.4	171	51.8	163	56.6	154	62.1	143	69.0	136	73.8
	210	213	55.3	203	60.5	192	66.3	181	72.9	167	81.1	157	86.9
	230	230	61.8	220	67.2	209	73.3	198	80.1	178	87.7	163	93
	250	252	70.3	241	76.4	229	83.3	216	90.9	194	99	177	105

Symbols:

CC: Cooling capacity (kW)
PI : Power input (kW)
LWE: Leaving Water Evaporator temperature (°C)
Tamb: Ambient temperature (°C)

3TW57652-1B

NOTES

1 **Cooling capacity (kW)**
Capacity is according to Eurovent
rating standard 6/C/003-2006 and valid for chilled water range Dt = 3 - 8°C

2 **Power input (kW)**
Power input is total input according to Eurovent
rating standard 6/C/003-2006: Compressor + fans + control circuit

3 **For units with integrated pump**
Values for CC are to be multiplied by 0.99 in order to compensate heat input of the pump

4 **Usage of glycol and other anti-freeze**
Correction factors for CC and PI are applicable according type and concentration of the used anti-freeze

3 Capacity tables

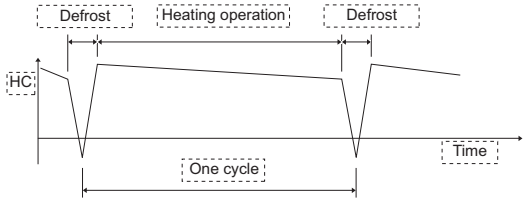
3 - 2 Heating capacity tables

EWYQ-DAYN(N-B-P)

HEATING

Tamb (°CDB)		-10		-7		-4		0		4		7		10		15		21	
LWE	Size	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI	HC	PI
25	080	58.4	19.8	64.5	20.0	70.5	20.1	78.0	20.3	86.0	20.6	92.4	20.9	99.0	21.1	110	21.6	125	22.2
	100	74.1	23.9	82.3	24.2	90.3	24.4	100	24.8	111	25.2	119	25.5	127	25.9	142	26.5	159	27.3
	130	97	31.7	108	32.2	118	32.7	131	33.4	145	34.1	156	34.7	167	35.3	186	36.3	210	37.4
	150	107	40.0	118	40.0	129	40.1	143	40.2	157	40.5	168	40.7	179	40.9	199	41.4	223	41.9
	180	129	44.1	144	44.5	158	44.9	176	45.5	194	46.2	208	46.7	222	47.3	246	48.3	273	49.5
	210	141	50.7	158	51.0	174	51.3	193	51.6	214	52.0	229	52.3	244	52.6	270	53.3	299	54.1
	230	160	54.3	179	54.9	198	55.5	222	56.2	248	57.1	269	57.7	292	58.4	332	59.7	385	61.5
	250	175	62.1	195	62.9	216	63.8	242	64.9	270	66.1	293	67.0	317	67.9	360	69.6	416	71.8
30	080	57.4	21.8	63.3	21.9	69.8	22.0	77.2	22.2	85.0	22.5	91.2	22.8	97.6	23.0	109	23.5	123	24.5
	100	73.2	26.4	81.2	26.7	89.8	27.0	99.5	27.4	110	27.8	118	28.2	126	28.5	140	29.1	157	30.0
	130	96	34.8	106	35.3	117	35.8	130	36.5	144	37.2	154	37.8	165	38.4	184	39.4	207	40.6
	150	106	44.1	117	44.0	129	44.0	142	44.1	156	44.3	167	44.5	178	44.7	197	45.1	221	45.7
	180	127	48.5	142	48.9	157	49.3	174	49.9	192	50.6	206	51.2	220	51.7	243	52.8	269	54.0
	210	140	55.8	157	56.2	174	56.5	193	56.8	213	57.2	228	57.5	243	57.8	268	58.3	296	59.1
	230	158	59.5	177	60.2	197	60.8	221	61.7	246	62.5	267	63.2	288	64.0	327	65.3	379	67.2
	250	173	67.8	193	68.7	215	69.7	241	70.9	268	72.2	290	73.2	313	74.2	355	76.0	409	78.4
35	080	56.6	24.0	62.4	24.1	68.7	24.2	76.5	24.4	84.1	24.7	90.0	24.9	96.3	25.2	107	25.7	121	26.4
	100	72.5	29.1	80.4	29.5	88.7	29.8	99.0	30.3	109	30.7	116	31.1	124	31.5	138	32.1	155	33.0
	130	95	38.4	105	38.8	116	39.3	129	39.9	142	40.7	153	41.2	163	41.8	181	42.9	204	44.1
	150	105	48.6	116	48.5	127	48.4	142	48.4	155	48.5	166	48.7	177	48.9	196	49.3	219	49.8
	180	126	53.3	140	53.7	155	54.2	173	54.9	190	55.6	204	56.1	217	56.7	239	57.8	265	59.1
	210	140	61.5	156	61.9	173	62.2	193	62.6	212	63.0	227	63.2	241	63.5	266	64.0	294	64.7
	230	157	65.4	175	66.1	195	66.8	219	67.8	244	68.7	264	69.4	285	70.2	322	71.6	372	73.5
	250	172	74.2	192	75.3	213	76.3	240	77.7	266	79.0	287	80.1	310	81.2	350	83.1	402	85.6
40	080	56.2	26.5	61.7	26.5	67.7	26.6	75.9	26.8	83.2	27.1	88.9	27.3	88.9	27.6	105	28.1	118	28.8
	100	72.1	32.2	79.7	32.6	87.7	33.0	98.5	33.5	108	34.0	115	34.4	123	34.8	136	35.5	152	36.3
	130	94	42.5	104	42.8	115	43.2	129	43.9	141	44.6	151	45.1	161	45.7	178	46.8	200	48.1
	150	105	53.7	116	53.5	127	53.3	142	53.3	155	53.3	165	53.4	176	53.6	194	54.0	217	54.5
	180	125	58.8	139	59.2	153	59.7	172	60.4	189	61.1	201	61.7	214	62.3	236	63.4	261	64.8
	210	140	67.7	156	68.2	172	68.6	193	69.1	212	69.5	226	69.7	240	70.0	264	70.5	291	71.1
	230	156	71.9	174	72.7	193	73.5	218	74.6	242	75.6	261	76.4	281	77.2	317	78.6	364	80.6
	250	171	81.5	190	82.7	211	83.8	239	85.2	264	86.7	284	87.9	306	89.0	344	91.1	393	93.7
45	080					66.9	29.4	74.7	29.5	82.3	29.8	87.7	30.0	93.4	30.3	103	30.6	116	30.8
	100					86.8	36.6	97.1	37.2	107	37.7	114	38.1	121	38.5	134	39.3	149	40.2
	130					113	47.9	127	48.4	140	49.1	149	49.6	159	50.2	175	51.2	196	52.6
	150					127	58.9	141	58.7	155	58.7	165	58.8	175	58.9	193	59.3	215	59.8
	180					151	65.9	169	66.6	187	67.4	199	68.0	211	68.6	232	69.8	256	71.2
	210					171	75.8	192	76.3	212	76.8	225	77.0	239	77.3	262	77.8	289	78.3
	230					191	81.1	215	82.3	240	83.4	258	84.2	277	85.0	311	86.5	355	88.5
	250					209	92.2	235	93.8	262	95.4	281	96.6	301	97.8	337	100	384	103
50	080							73.4	32.6	81.4	32.9	86.4	33.1	91.7	33.4	101	33.9	113	34.7
	100							95.7	41.3	106	41.9	113	42.3	210	42.7	132	43.5	146	44.4
	130							125	53.7	138	54.3	147	54.8	156	55.3	172	56.3	191	57.7
	150							140	64.9	155	64.8	165	64.9	175	65.0	192	65.3	213	65.8
	180							167	73.7	185	74.4	196	75.1	208	75.7	228	76.9	251	78.3
	210							191	84.5	212	85.0	225	85.3	238	85.6	260	8.0	286	86.5
	230							212	90.9	237	92.1	254	93.0	272	93.8	304	95.4	346	97
	250							232	103	259	105	277	106	295	108	329	110	373	113

- Intergrated heating capacity graph



Note 1: HC tabulated does not include capacity drop during frosting period and defrost.
The integrated Heating Capacity takes into consideration the capacity drop during frosting period and defrosting operation.

$(HC_{integrated})$=(HC)*(Integrated correction factor during frosting period)

- Integrated heating capacity means the heating capacity during one cycle (between defrosting period and defrosting period). which is integrated and converted to heatingcapacity per hour.
- Integrated correction factor:

Tamb [°C] RH 85%	-10	-7	-4	0	4	7
Correction factor	0.96	0.95	0.92	0.87	0.90	1.00

Note 2: In case the surface of the heat exchanger is covered with snow. heating capacity drops temporarily although it differs with outdoor temperature (°CDB). relative humidity (RH) and frosting volume

NOTES

1 **Heating capacity (CAP)**
Capacity is according to Eurovent rating standard 6/C/003-2006 and valid for heated water range Dt = 3 - 8°C

2 **Power input (kW)**
Power input is total input according to Eurovent rating standard 6/C/003-2006: Compressor + fans + control circuit

Symbols:

HC : Heating Capacity (kW)
PI : Power Input (kW)
LWC : Leaving Water Condensor temperature (°C)
Tamb : Ambient temperature dry bulb (°C)

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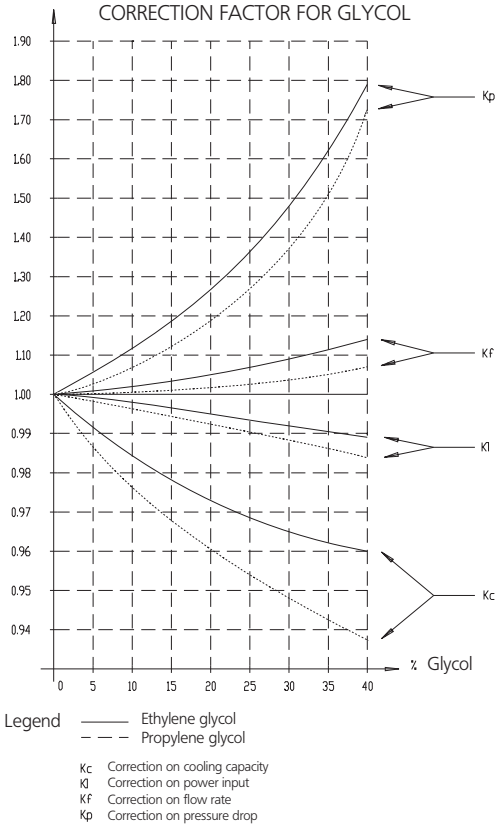
3 Capacity tables

3 - 3 Capacity correction factor

Required glycol concentration

Type	Concentration (wt%)	0	10	20	30	40
Ethylene glycol	Freezing point °C	0	-4	-9	-16	-23
	Minimum LWE °C	4	2	0	-5	-11
Propylene glycol	Freezing point °C	0	-3	-7	-13	-22
	Minimum LWE °C	4	3	-2	-4	-10



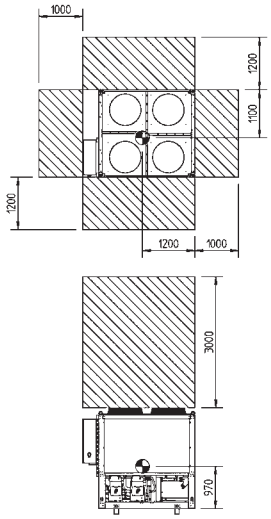
4TW50689-8

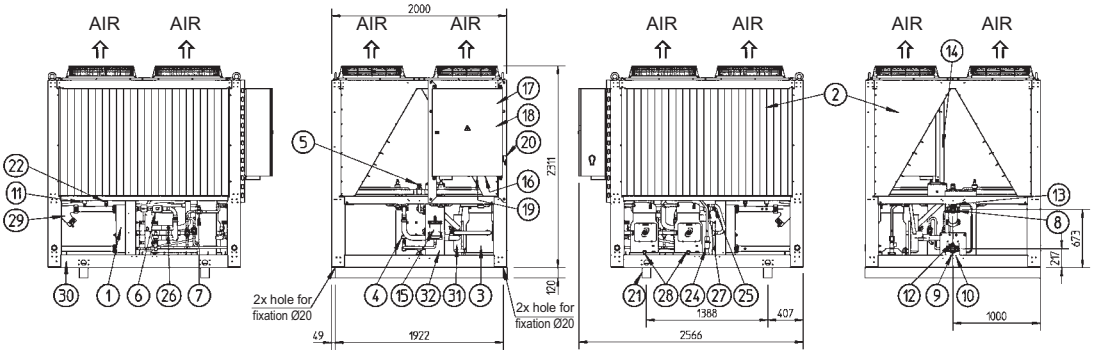
4 Dimensional drawing

4 - 1 Dimensional drawing

EWYQ080-100DAYN(N)

01 Evaporator
02 Condensor
03 Compressor
04 Expansion valve + sight glass
05 Discharge stopvalve (Optional)
06 Suction stopvalve (Optional)
07 Liquid stopvalve (Optional)
08 Chilled water IN (Victaulic coupling)
09 Chilled water OUT (Victaulic coupling)
10 Water drain evaporator
11 Air purge
12 Leaving water temperature sensor
13 Entering water temperature sensor
14 Ambient temperature sensor
15 Drier + charge valve
16 Power supply intake
17 Switchbox
18 Digital display controller (Inside switchbox)
19 Field wiring intake
20 Main isolator switch
21 Transport beam
22 Flowswitch
23 Fan
24 Safety valve
25 High pressure sensor
26 Low pressure sensor
27 High pressure switch
28 Oil sight glass
29 Waterfilter
30 Frame
31 4-way valve
32 Liquid receiver





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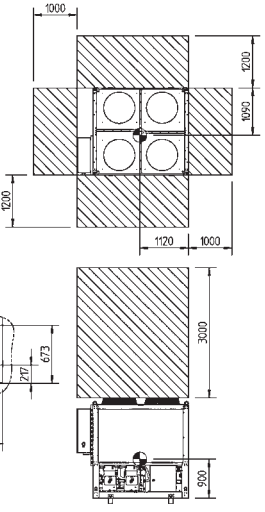
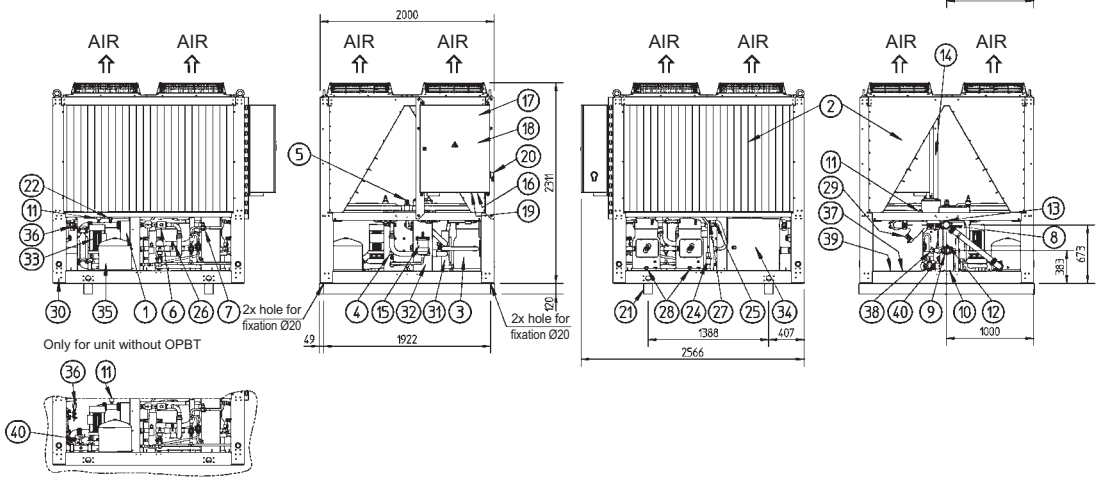
EWYQ80-100DAYN(P-B)

01 Evaporator
02 Condensor
03 Compressor
04 Expansion valve + sight glass
05 Discharge stopvalve (Optional)
06 Suction stopvalve (Optional)
07 Liquid stopvalve (Optional
08 Chilled water IN (Victaulic coupling)
09 Chilled water OUT (Victaulic coupling)
10 Water drain evaporator
11 Air purge
12 Leaving water temperature sensor
13 Entering water temperature sensor
14 Ambient temperature sensor
15 Drier + charge valve
16 Power supply intake
17 Switchbox
18 Digital display controller (Inside switchbox)
19 Field wiring intake
20 Main isolator switch
21 Transport beam
22 Flowswitch
23 Fan
24 Safety valve
25 High pressure sensor
26 Low pressure sensor
27 High pressure switch
28 Oil sight glass
29 Waterfilter
30 Frame
31 4-way valve
32 Liquid receiver
33 Pump (Optional)
34 Buffertank (Optional)
35 Expansion vessel (Optional)
36 Water stopvalve (Optional)
37 Buffertank drain valve (Optional)
38 Regulating valve (Optional)
39 Water safety valve (Optional)
40 Pressure gauge (Optional)





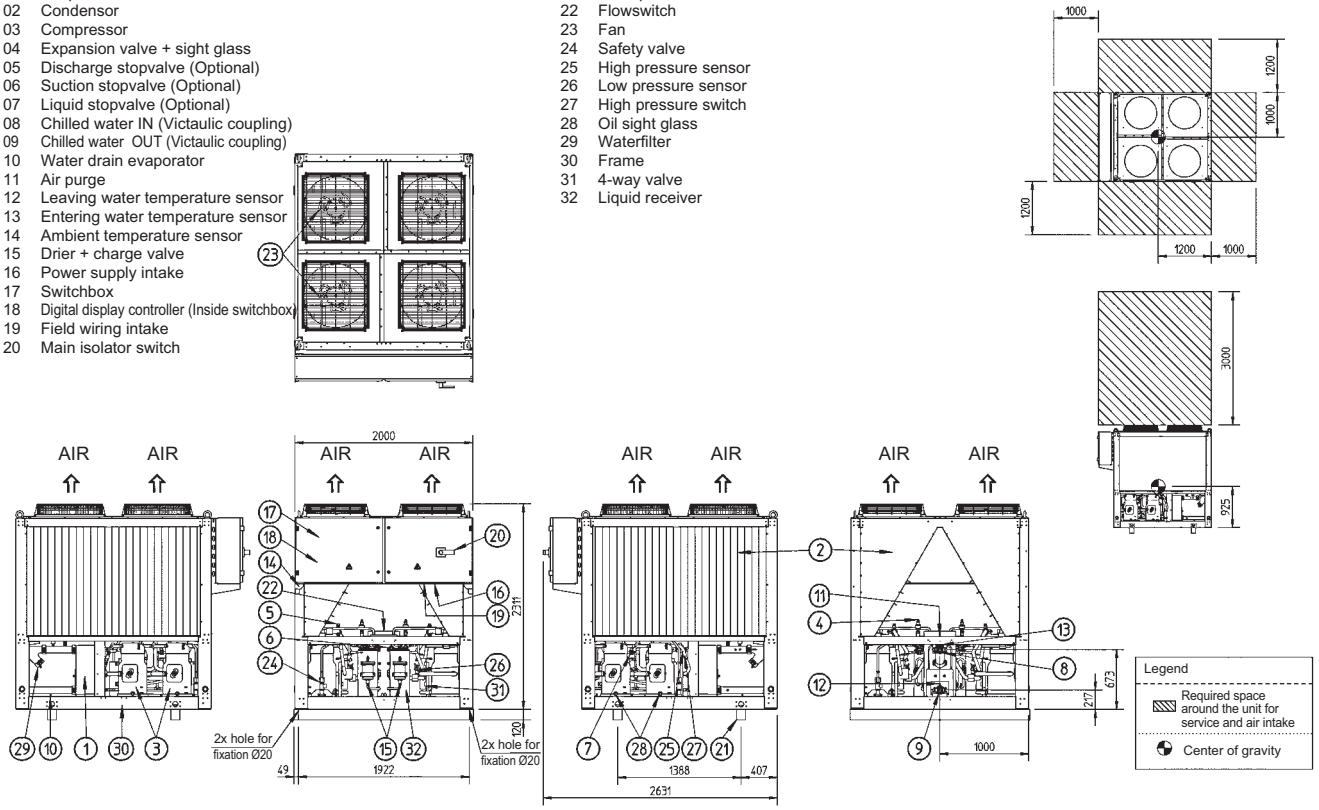
3TW57654-1

4 Dimensional drawing

4 - 1 Dimensional drawing

EWYQ130-150DAYN(N)

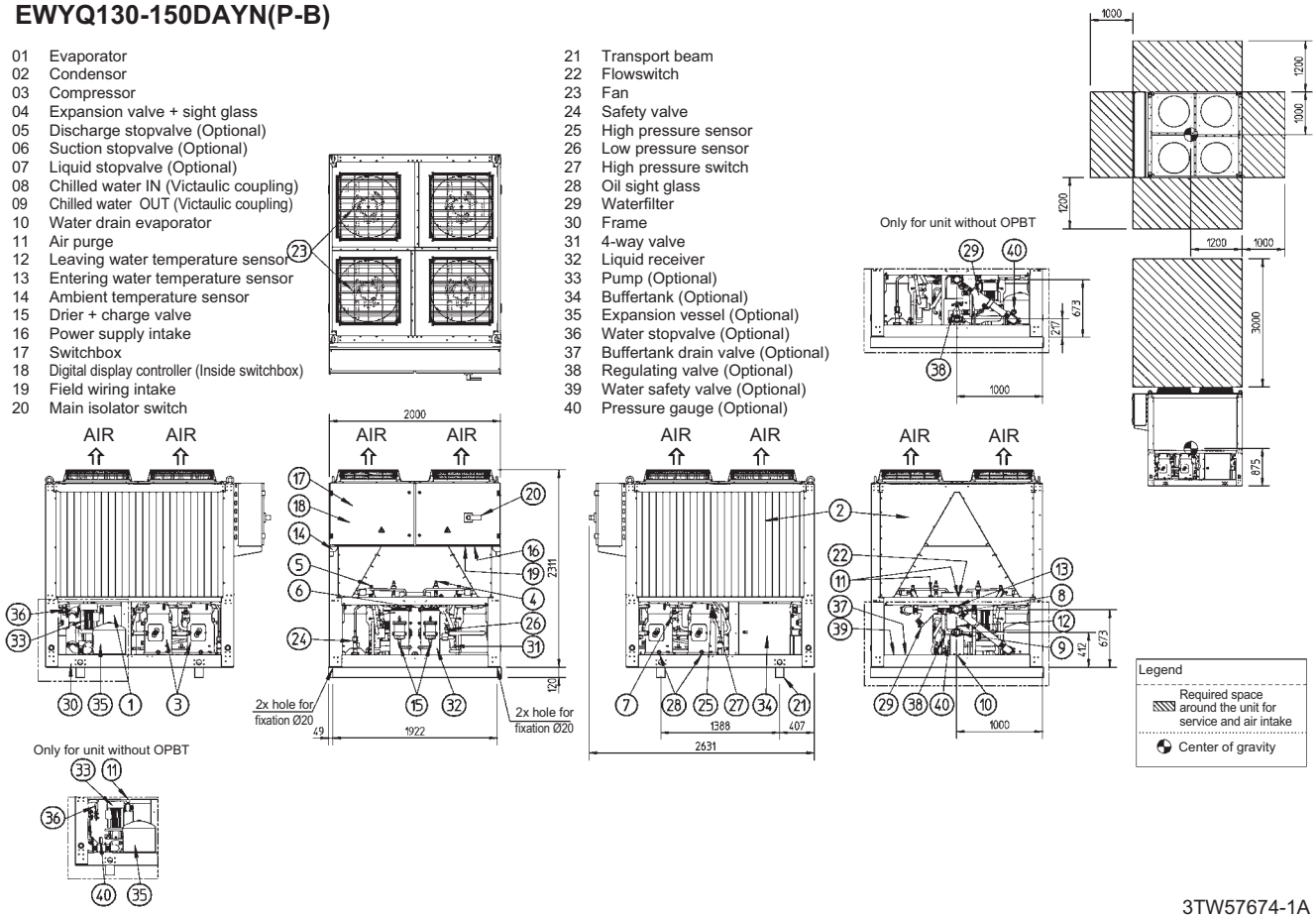
01 Evaporator
02 Condensor
03 Compressor
04 Expansion valve + sight glass
05 Discharge stopvalve (Optional)
06 Suction stopvalve (Optional)
07 Liquid stopvalve (Optional)
08 Chilled water IN (Victaulic coupling)
09 Chilled water OUT (Victaulic coupling)
10 Water drain evaporator
11 Air purge
12 Leaving water temperature sensor
13 Entering water temperature sensor
14 Ambient temperature sensor
15 Drier + charge valve
16 Power supply intake
17 Switchbox
18 Digital display controller (Inside switchbox)
19 Field wiring intake
20 Main isolator switch
21 Transport beam
22 Flowswitch
23 Fan
24 Safety valve
25 High pressure sensor
26 Low pressure sensor
27 High pressure switch
28 Oil sight glass
29 Waterfilter
30 Frame
31 4-way valve
32 Liquid receiver



3TW57674-2A

EWYQ130-150DAYN(P-B)

01 Evaporator
02 Condensor
03 Compressor
04 Expansion valve + sight glass
05 Discharge stopvalve (Optional)
06 Suction stopvalve (Optional)
07 Liquid stopvalve (Optional)
08 Chilled water IN (Victaulic coupling)
09 Chilled water OUT (Victaulic coupling)
10 Water drain evaporator
11 Air purge
12 Leaving water temperature sensor
13 Entering water temperature sensor
14 Ambient temperature sensor
15 Drier + charge valve
16 Power supply intake
17 Switchbox
18 Digital display controller (Inside switchbox)
19 Field wiring intake
20 Main isolator switch
21 Transport beam
22 Flowswitch
23 Fan
24 Safety valve
25 High pressure sensor
26 Low pressure sensor
27 High pressure switch
28 Oil sight glass
29 Waterfilter
30 Frame
31 4-way valve
32 Liquid receiver
33 Pump (Optional)
34 Buffertank (Optional)
35 Expansion vessel (Optional)
36 Water stopvalve (Optional)
37 Buffertank drain valve (Optional)
38 Regulating valve (Optional)
39 Water safety valve (Optional)
40 Pressure gauge (Optional)



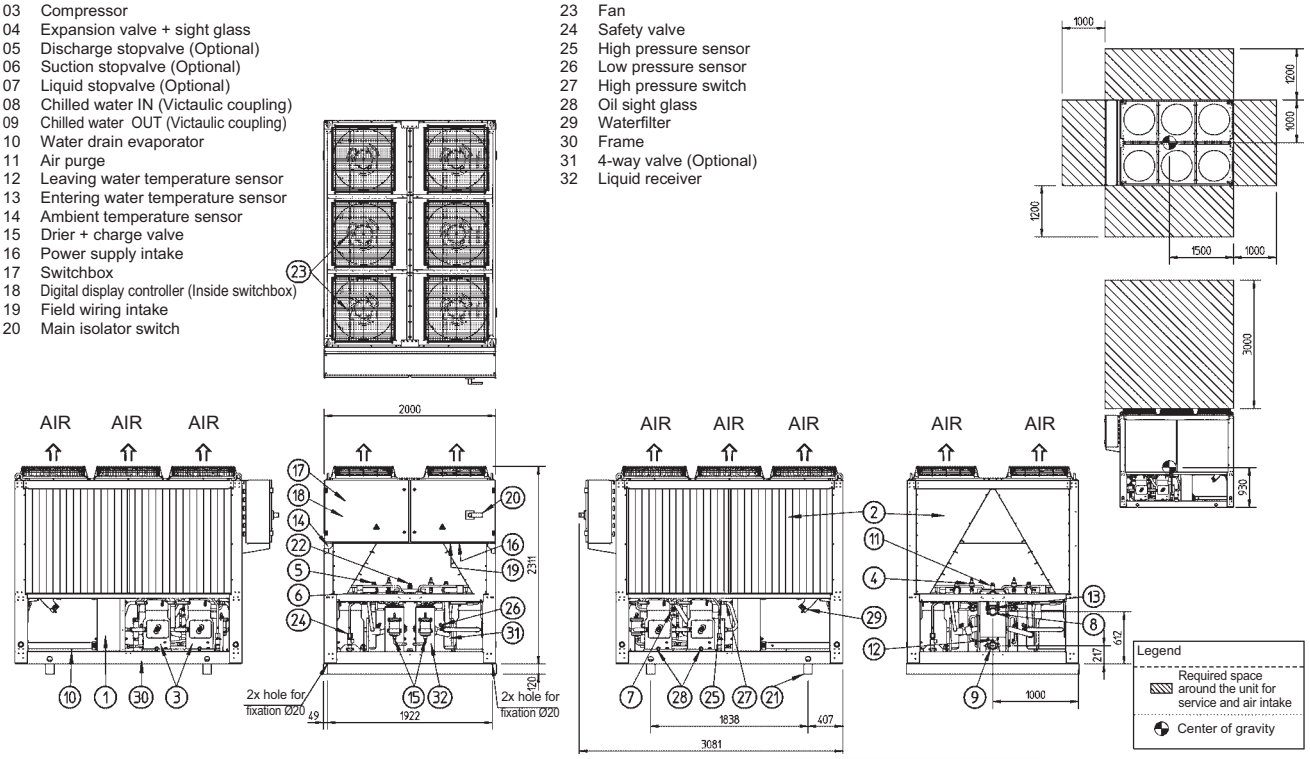
3TW57674-1A

4 Dimensional drawing

4 - 1 Dimensional drawing

EWYQ180-210DAYN(N)

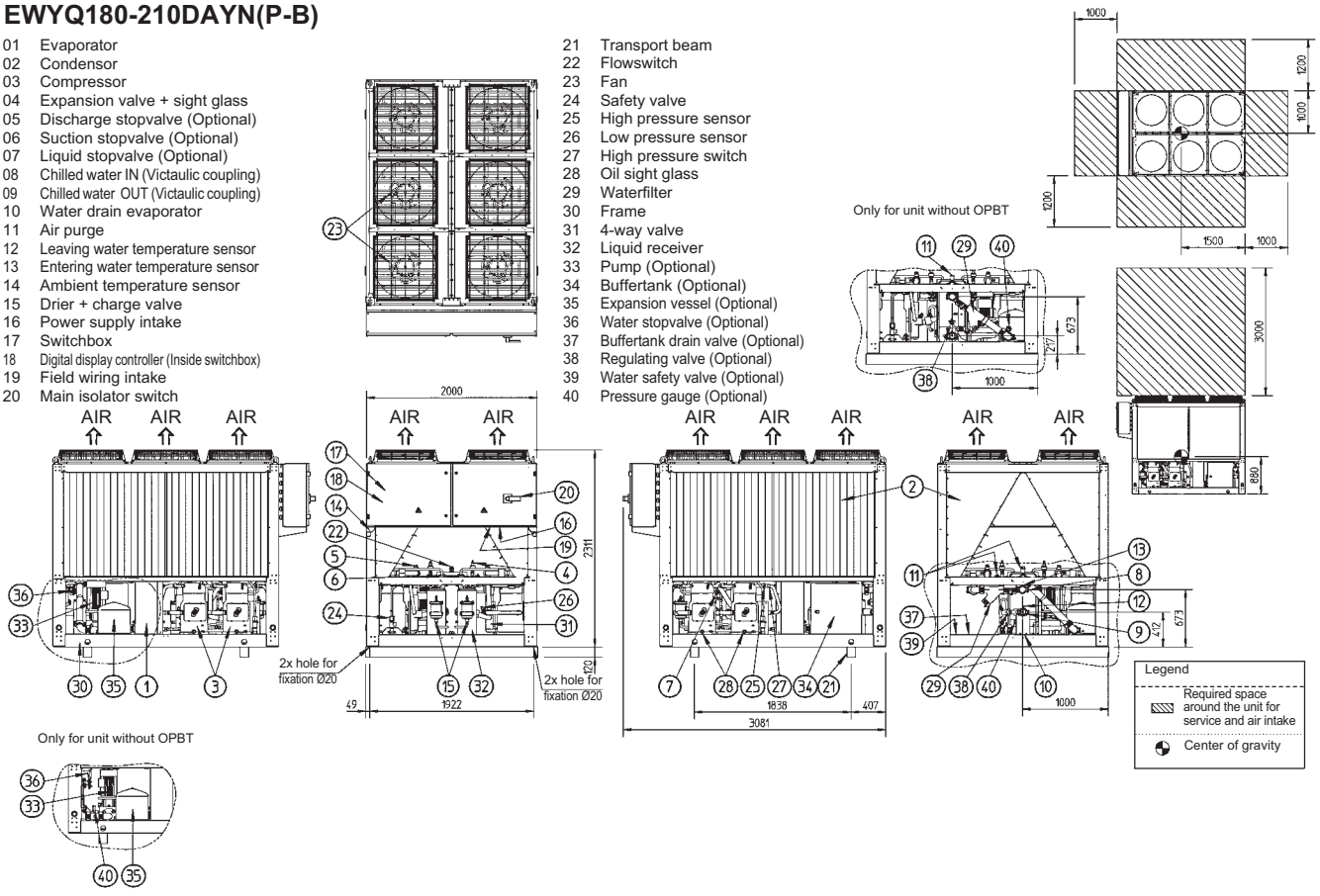
01 Evaporator
02 Condensor
03 Compressor
04 Expansion valve + sight glass
05 Discharge stopvalve (Optional)
06 Suction stopvalve (Optional)
07 Liquid stopvalve (Optional)
08 Chilled water IN (Victaulic coupling)
09 Chilled water OUT (Victaulic coupling)
10 Water drain evaporator
11 Air purge
12 Leaving water temperature sensor
13 Entering water temperature sensor
14 Ambient temperature sensor
15 Drier + charge valve
16 Power supply intake
17 Switchbox
18 Digital display controller (Inside switchbox)
19 Field wiring intake
20 Main isolator switch
21 Transport beam
22 Flowswitch
23 Fan
24 Safety valve
25 High pressure sensor
26 Low pressure sensor
27 High pressure switch
28 Oil sight glass
29 Waterfilter
30 Frame
31 4-way valve (Optional)
32 Liquid receiver



3TW57694-2A

EWYQ180-210DAYN(P-B)

01 Evaporator
02 Condensor
03 Compressor
04 Expansion valve + sight glass
05 Discharge stopvalve (Optional)
06 Suction stopvalve (Optional)
07 Liquid stopvalve (Optional)
08 Chilled water IN (Victaulic coupling)
09 Chilled water OUT (Victaulic coupling)
10 Water drain evaporator
11 Air purge
12 Leaving water temperature sensor
13 Entering water temperature sensor
14 Ambient temperature sensor
15 Drier + charge valve
16 Power supply intake
17 Switchbox
18 Digital display controller (Inside switchbox)
19 Field wiring intake
20 Main isolator switch
21 Transport beam
22 Flowswitch
23 Fan
24 Safety valve
25 High pressure sensor
26 Low pressure sensor
27 High pressure switch
28 Oil sight glass
29 Waterfilter
30 Frame
31 4-way valve
32 Liquid receiver
33 Pump (Optional)
34 Buffertank (Optional)
35 Expansion vessel (Optional)
36 Water stopvalve (Optional)
37 Buffertank drain valve (Optional)
38 Regulating valve (Optional)
39 Water safety valve (Optional)
40 Pressure gauge (Optional)



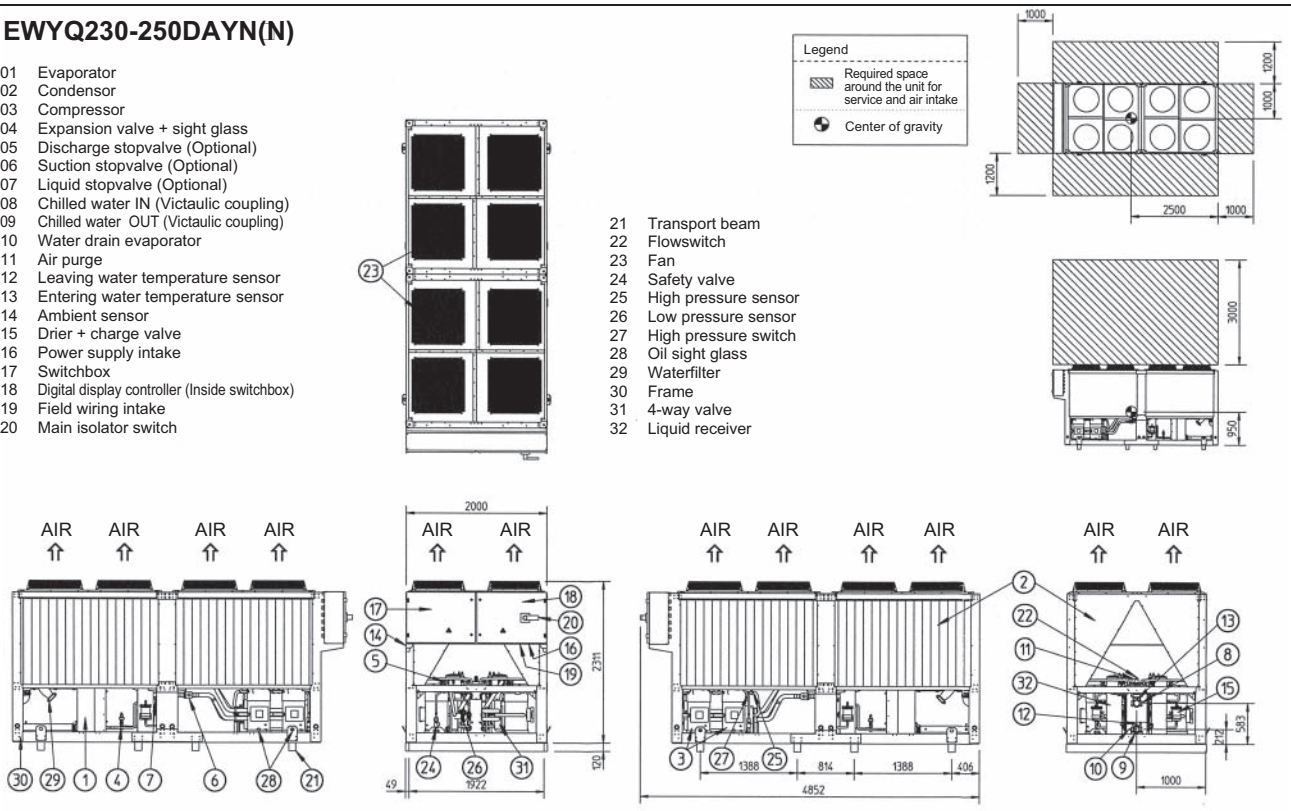
3TW57694-1A

4 Dimensional drawing

4 - 1 Dimensional drawing

EWYQ230-250DAYN(N)

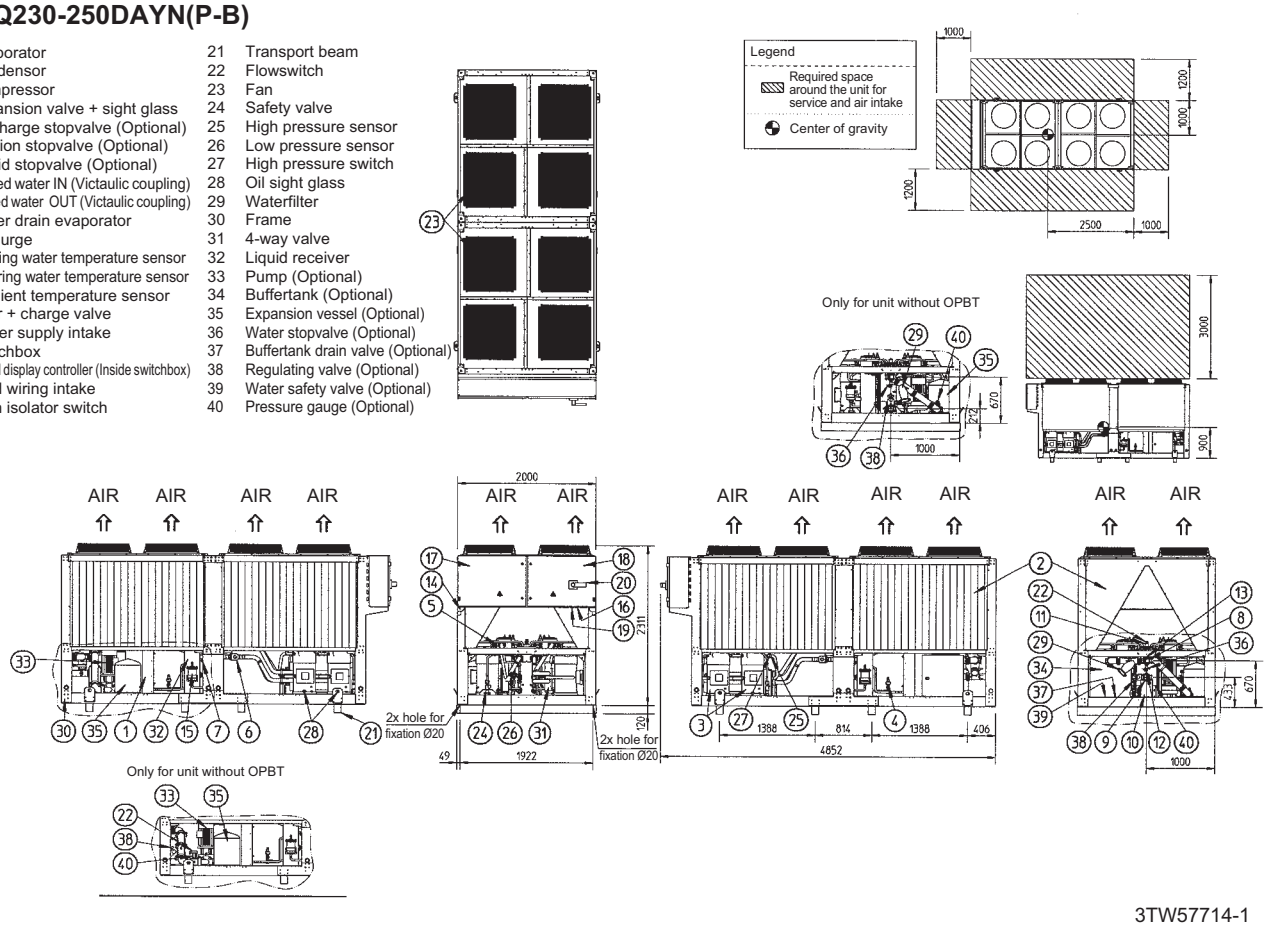
01 Evaporator
02 Condensor
03 Compressor
04 Expansion valve + sight glass
05 Discharge stopvalve (Optional)
06 Suction stopvalve (Optional)
07 Liquid stopvalve (Optional)
08 Chilled water IN (Victaulic coupling)
09 Chilled water OUT (Victaulic coupling)
10 Water drain evaporator
11 Air purge
12 Leaving water temperature sensor
13 Entering water temperature sensor
14 Ambient sensor
15 Drier + charge valve
16 Power supply intake
17 Switchbox
18 Digital display controller (Inside switchbox)
19 Field wiring intake
20 Main isolator switch
21 Transport beam
22 Flowswitch
23 Fan
24 Safety valve
25 High pressure sensor
26 Low pressure sensor
27 High pressure switch
28 Oil sight glass
29 Waterfilter
30 Frame
31 4-way valve
32 Liquid receiver



3TW57714-2

EWYQ230-250DAYN(P-B)

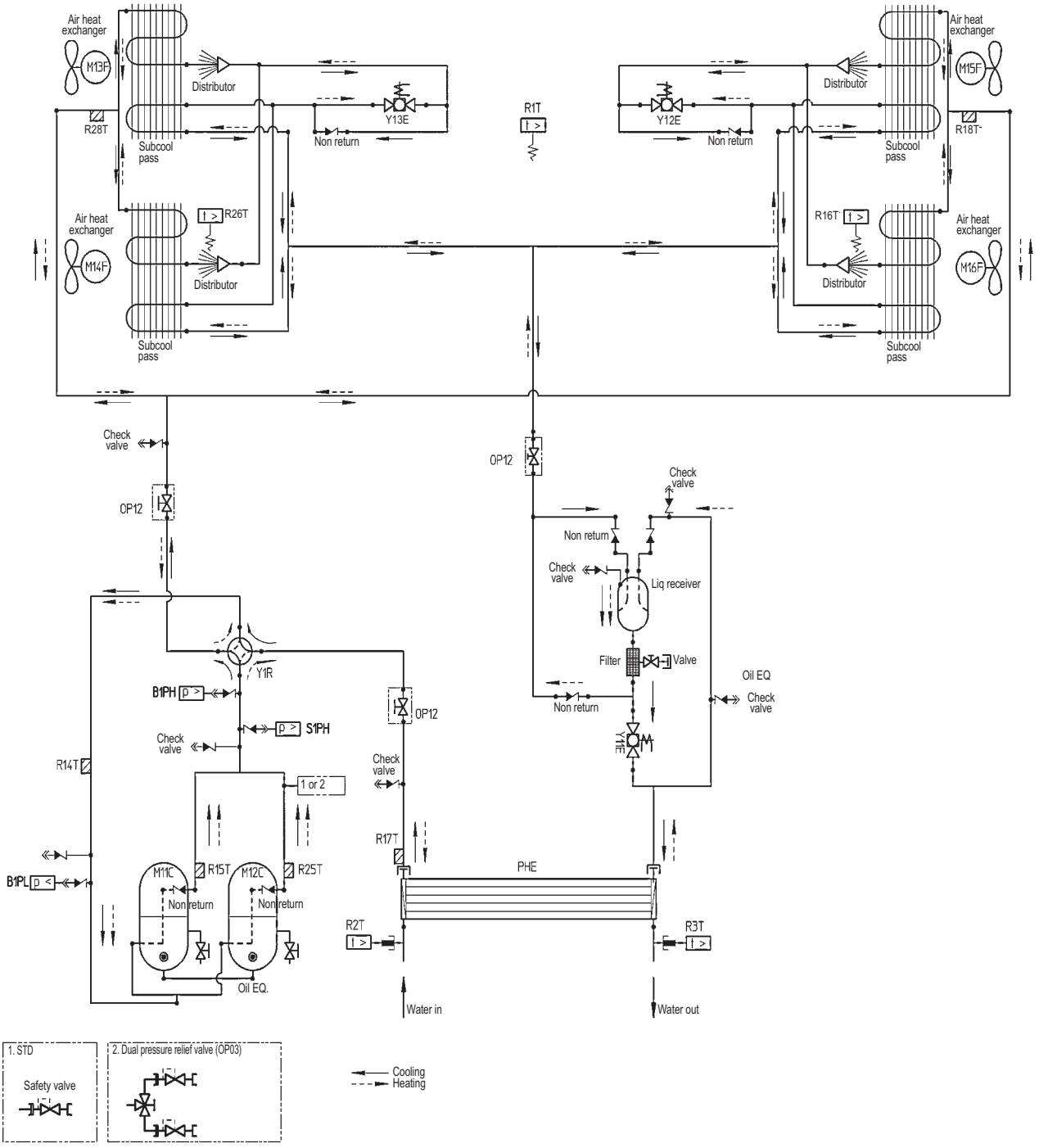
01 Evaporator
02 Condensor
03 Compressor
04 Expansion valve + sight glass
05 Discharge stopvalve (Optional)
06 Suction stopvalve (Optional)
07 Liquid stopvalve (Optional)
08 Chilled water IN (Victaulic coupling)
09 Chilled water OUT (Victaulic coupling)
10 Water drain evaporator
11 Air purge
12 Leaving water temperature sensor
13 Entering water temperature sensor
14 Ambient temperature sensor
15 Drier + charge valve
16 Power supply intake
17 Switchbox
18 Digital display controller (Inside switchbox)
19 Field wiring intake
20 Main isolator switch
21 Transport beam
22 Flowswitch
23 Fan
24 Safety valve
25 High pressure sensor
26 Low pressure sensor
27 High pressure switch
28 Oil sight glass
29 Waterfilter
30 Frame
31 4-way valve
32 Liquid receiver
33 Pump (Optional)
34 Buffertank (Optional)
35 Expansion vessel (Optional)
36 Water stopvalve (Optional)
37 Buffertank drain valve (Optional)
38 Regulating valve (Optional)
39 Water safety valve (Optional)
40 Pressure gauge (Optional)



3TW57714-1

5 Piping diagram

EWYQ080-100DAYN (N-P-B)(piping diagram)



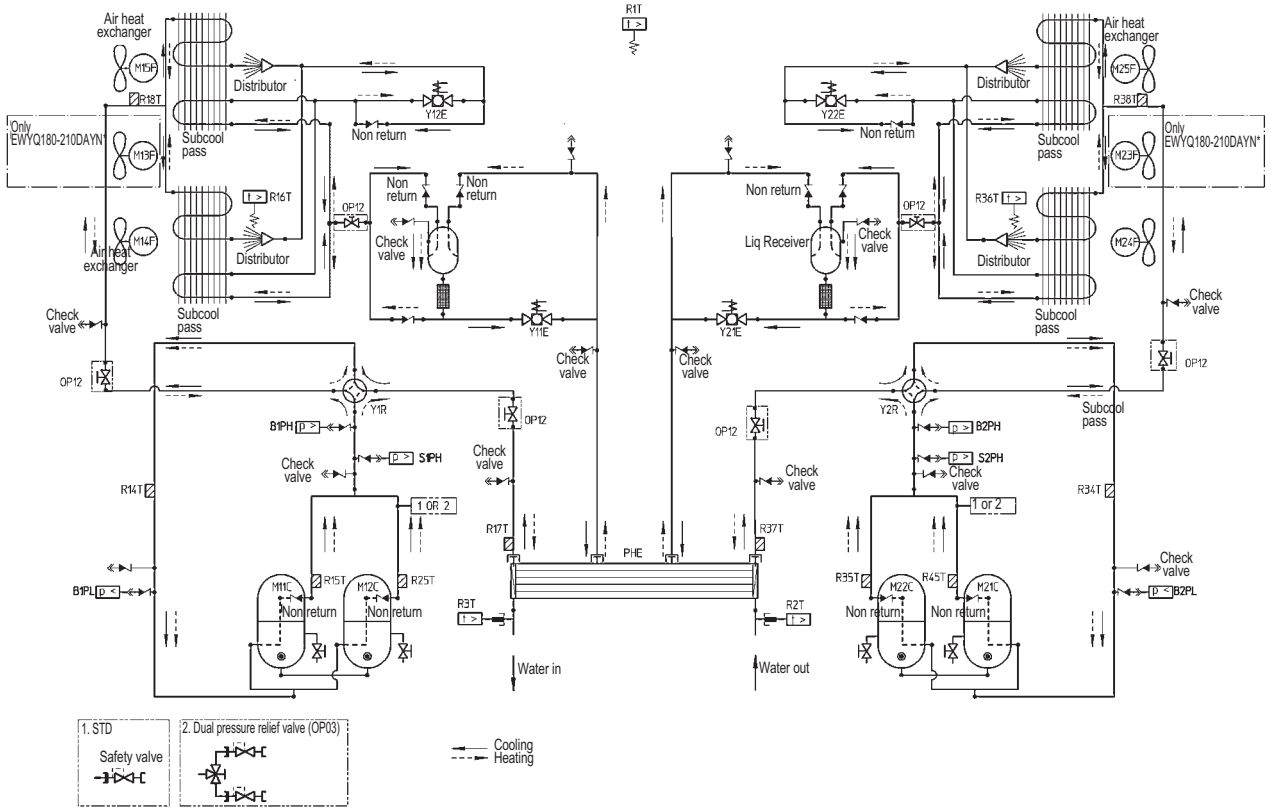
Brand	Designation		
M11-12C	Compressor motors	R15T, R25T	Discharge temperature sensor
M13-16F	Fan motors	B1PH	High pressure sensor
R14T	Suction temperature sensor	B1PL	Low pressure sensor
R17T	Refrigerant piping temperature sensor	Y11E	Electronic Expansion valve cooling
R18T, R28T	Heating suction piping temperature sensor	Y12E, Y22E	Electronic expansion valve heating coil 1
R16T, R26T	Coil temperature sensor	R1T	Ambient temperature sensor
S1PH	High pressure switch	R2T	Evaporator inlet water temperature sensor
Y1R	Reverse valve	R3T	Evaporator outlet water temperature sensor

: Check valve
: Flare Conn.
: Screw conn.
: Flange conn.
: Pinched pipe
: Spinned pipe

3TW57655-1C

5 Piping diagram

EWYQ130-210DAYN (N-P-B)(piping diagram)



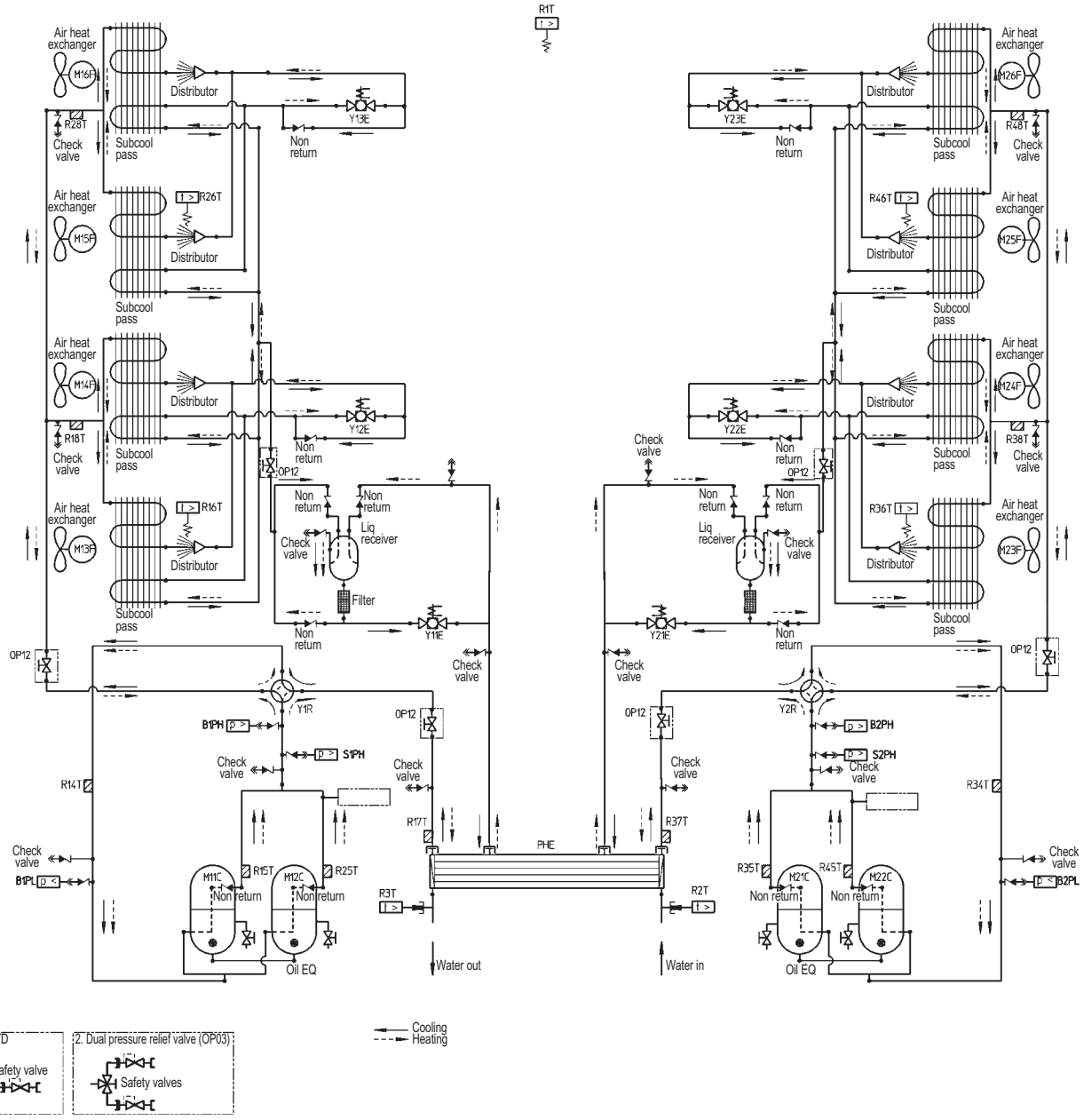
Merk	Benaming		
M11-12C	Compressor motors circuit 1	R36T	Coil temperature sensor circuit 2
M13-15F	Fan motors circuit 1	R37T	Refrigerant piping temperature sensor circuit 2
R14T	Suction temperature sensor circuit 1	R38T	Heating suction temp sensor circuit 2
R16T	Coil temperature sensor circuit 1	S2PH	High pressure switch circuit 2
R17T	Regrigerant piping temperature sensor circuit 1	Y2R	Reverse valve circuit 2
R18T	Heating suction temp sensor circuit 1	R35T, R45T	Discharge temperature sensor circuit 2
S1PH	High pressure sensor circuit 1	B2PH	High pressure sensor circuit 2
B1PL	Low pressure sensor circuit 1	B2PL	Low pressure sensor circuit 2
Y11E	Electronic Expansion valve cooling crcuit 1	Y21E	Electronic Expansion valve cooling circuit 2
Y12E	Electronic expansion valve heating circuit 1	Y22E	Electronic expansion valve heating circuit 2
M21-22C	Compressor motors circuit 2	R1T	Ambient temperature sensor
M23-25F	Fan motors crcuit 2	R2T	Evaporator inlet water temperature sensor
R34T	Suction temperature sensor circuit 2	R3T	Evaporator outlet water temperature sensor

: Check valve
: Flare Conn.
: Screw conn.
: Flange conn.
: Pinched pipe
: Spinned pipe

2TW57675-1A

5 Piping diagram

EWYQ230-250DAYN(N-P-B) (piping diagram)



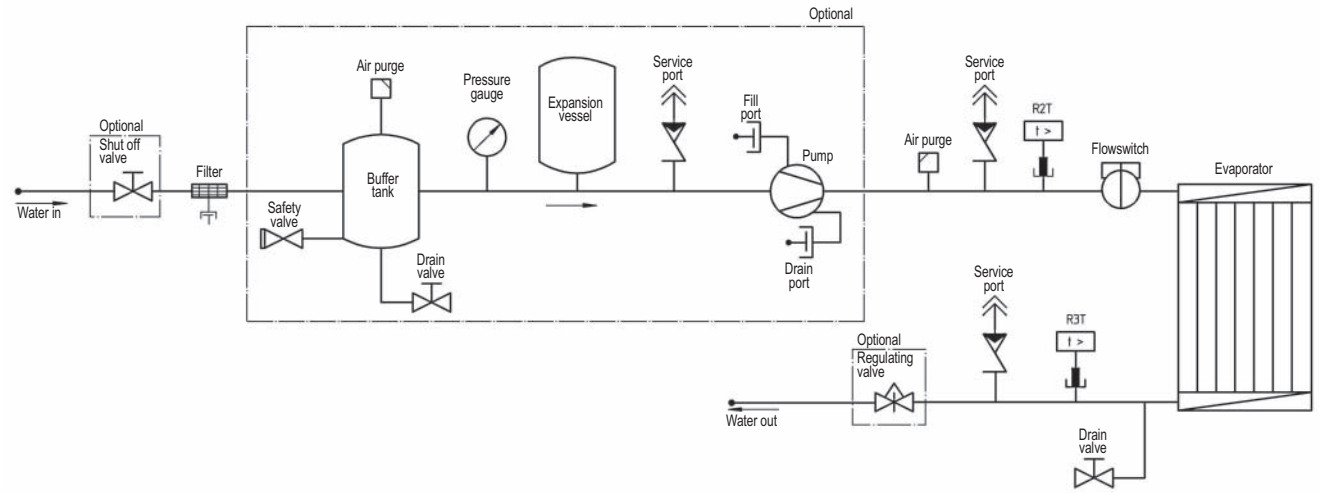
MERK	BENAMING		
M11-12C	Compressor motors circuit 1	M23-26F	Fan motors circuit 2
M13-16F	Fan motors circuit 1	R34T	Suction temperature sensor circuit 2
R14T	Suction temperature sensor circuit 1	R36T, R46T	Coil temperature sensor circuit 2
R16T,R26T	Coil temperature sensor circuit 1	R37T	Refrigerant piping temperature sensor circuit 2
R17T	Refrigerant piping temperature sensor circuit 1	S2PH	High pressure switch circuit 2
S1PH	High pressure switch circuit 1	Y2R	Reverse valve circuit 2
Y1R	Reverse valve circuit 1	R35T, R45T	Discharge temperature sensor circuit 2
R15T, R25T	Discharge temperature sensor circuit 1	B2PH	High pressure sensor circuit 2
B1PH	High pressure sensor circuit 1	B2PL	Low pressure sensor circuit 2
B1PL	Low pressure sensor circuit 1	Y21E	Electronic expansion valve cooling circuit 2
Y11E	Electronic expansion valve cooling circuit 1	R38T, R48T	Heating suction temperature sensor circuit 2
R18T, R28T	Heating suction temperature sensor circuit 1	Y22E, Y23E	Electronic expansion valve heating circuit 2
Y12E, Y13E	Electronic expansion valve heating circuit 1	R1T	Ambient temperature sensor
M21-22C	Compressor motors circuit 2	R2T	Evaporator inlet water temperature sensor
		R3T	Evaporator outlet water temperature sensor

: Check valve
: Flare Conn.
: Screw conn.
Flange conn.
: Pinched pipe
: Spinned pipe

2TW57715-1

5 Piping diagram

EWAQ-EWYQ-DAYN(N-P-B)(water piping diagram)

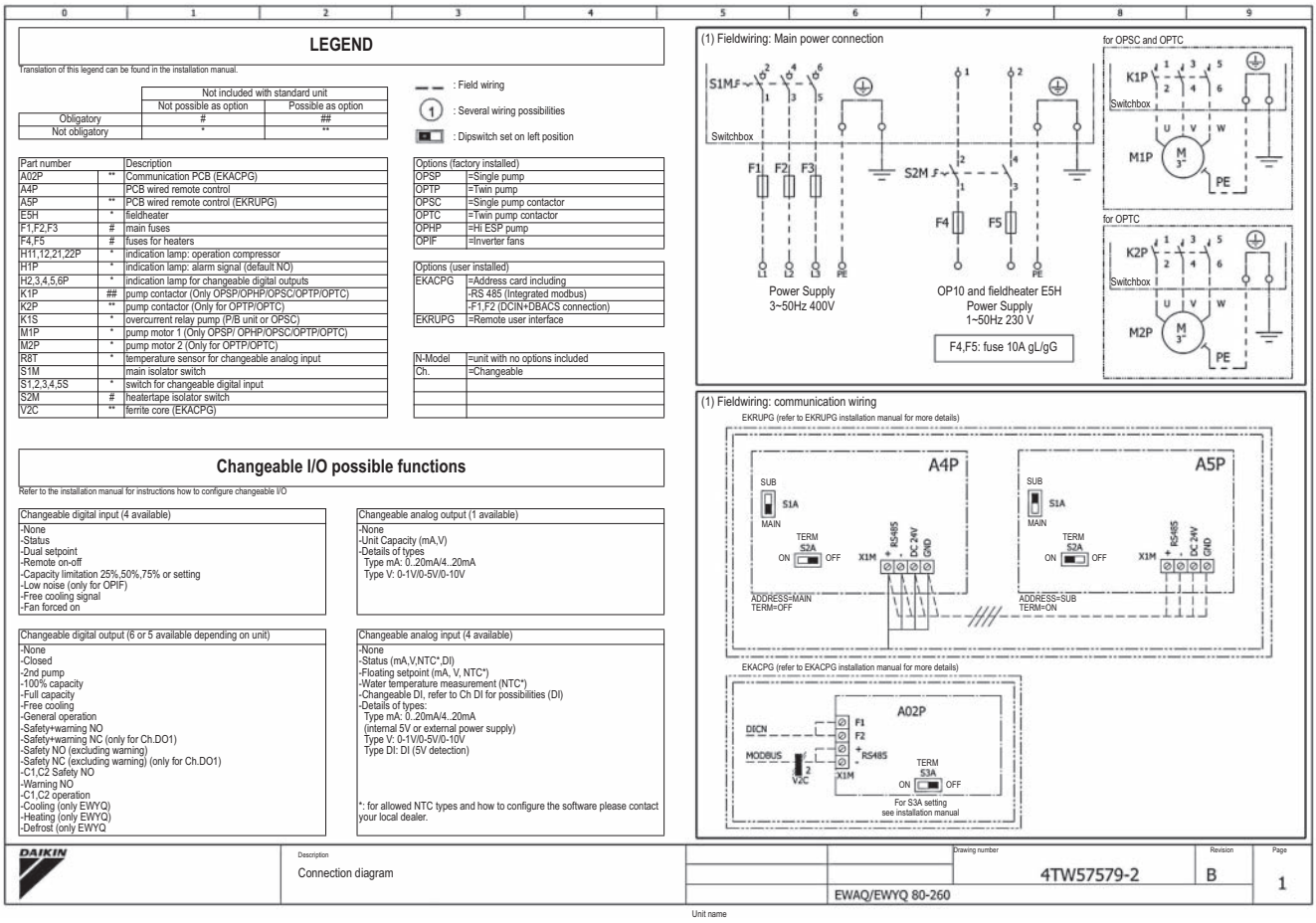


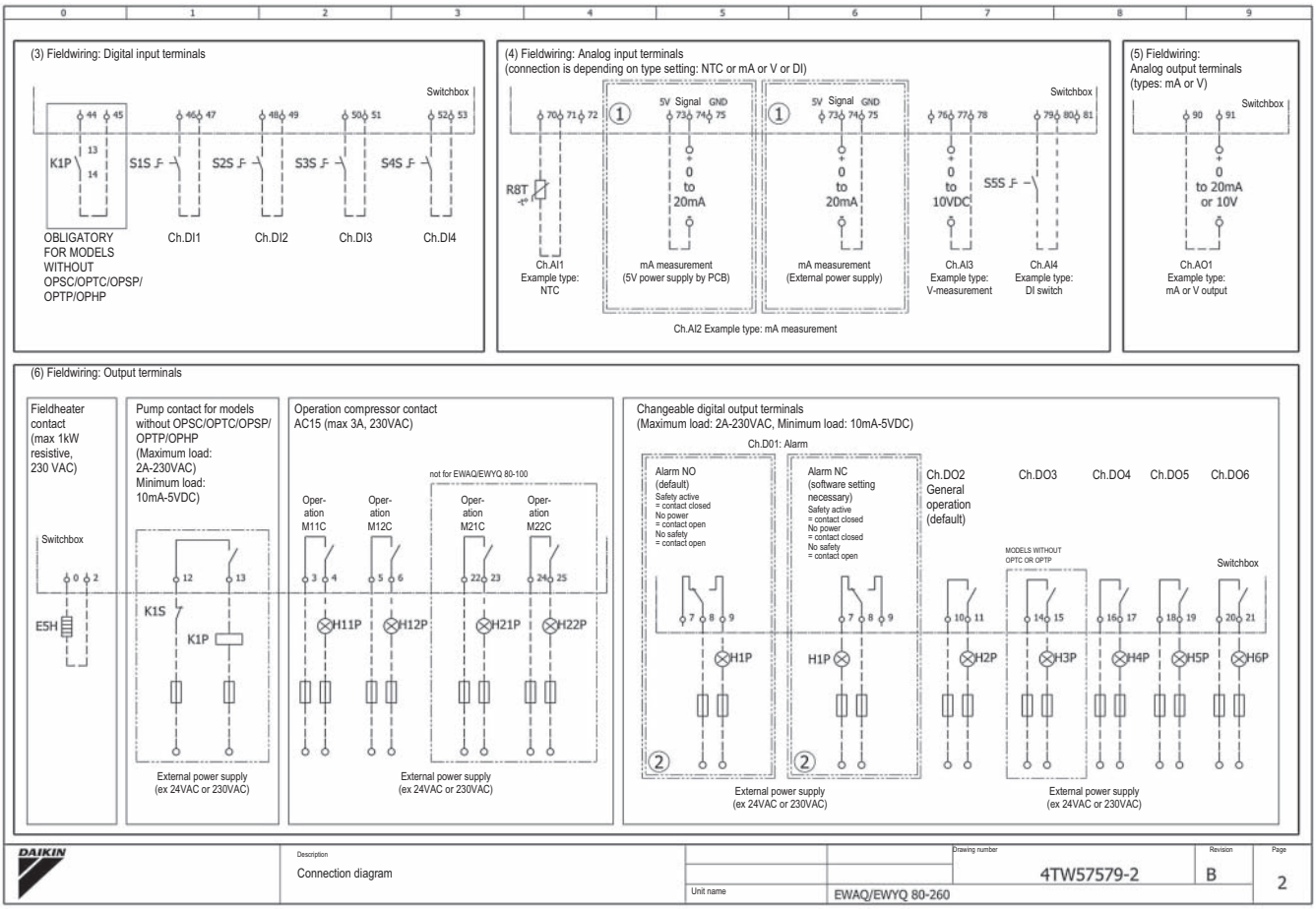
: Check valve
: Flare Conn.
: Screw conn.
: Flange conn.
: Pinched pipe
: Spinned pipe

3TW57575-2A

6 Wiring diagram

6 - 1 External connection diagram


LEGEND
Translation of this legend can be found in the installation manual.
Not included with standard unit
Not possible as option
Possible as option
Obligatory # ##
Not obligatory * **
: Field wiring
: Several wiring possibilities
: Dipswitch set on left position
Part number / Description
A02P ** Communication PCB (EKACPG)
A4P PCB wired remote control
A5P ** PCB wired remote control (EKRUPG)
E5H * fieldheater
F1,F2,F3 # main fuses
F4,F5 # fuses for heaters
H11,12,21,22P * indication lamp: operation compressor
H1P * indication lamp: alarm signal (default NO)
H2,3,4,5,6P * indication lamp for changeable digital outputs
K1P ## pump contactor (Only OPSP/OPHP/OPSC/OPTP/OPTC)
K2P ** pump contactor (Only for OPTP/OPTC)
K1S * overcurrent relay pump (P/B unit or OPSC)
M1P * pump motor 1 (Only OPSP/ OPHP/OPSC/OPTP/OPTC)
M2P * pump motor 2 (Only for OPTP/OPTC)
R8T * temperature sensor for changeable analog input
S1M main isolator switch
S1,2,3,4,5S * switch for changeable digital input
S2M # heatertape isolator switch
V2C ** ferrite core (EKACPG)
Options (factory installed)
OPSP =Single pump
OPTP =Twin pump
OPSC =Single pump contactor
OPTC =Twin pump contactor
OPHP =Hi ESP pump
OPIF =Inverter fans
Options (user installed)
EKACPG =Address card including -RS 485 (Integrated modbus) -F1,F2 (DCIN+DBACS connection)
EKRUPG =Remote user interface
N-Model =unit with no options included
Ch. =Changeable
Changeable I/O possible functions
Refer to the installation manual for instructions how to configure changeable I/O
Changeable digital input (4 available)
-None -Status -Dual setpoint -Remote on-off -Capacity limitation 25%,50%,75% or setting -Low noise (only for OPIF) -Free cooling signal -Fan forced on
Changeable analog output (1 available)
-None -Unit Capacity (mA,V) -Details of types Type mA: 0..20mA/4..20mA Type V: 0-1V/0-5V/0-10V
Changeable digital output (6 or 5 available depending on unit)
-None -Closed -2nd pump -100% capacity -Full capacity -Free cooling -General operation -Safety+warning NO -Safety+warning NC (only for Ch.DO1) -Safety NO (excluding warning) -Safety NC (excluding warning) (only for Ch.DO1) -C1,C2 Safety NO -Warning NO -C1,C2 operation -Cooling (only EWYQ) -Heating (only EWYQ) -Defrost (only EWYQ)
Changeable analog input (4 available)
-None -Status (mA,V,NTC*,DI) -Floating setpoint (mA, V, NTC*) -Water temperature measurement (NTC*) -Changeable DI, refer to Ch DI for possibilities (DI) -Details of types: Type mA: 0..20mA/4..20mA (internal 5V or external power supply) Type V: 0-1V/0-5V/0-10V Type DI: DI (5V detection)
*: for allowed NTC types and how to configure the software please contact your local dealer.
(1) Fieldwiring: Main power connection
Switchbox
S1M
F1 F2 F3
S2M
F4 F5
Power Supply 3~50Hz 400V
OP10 and fieldheater E5H Power Supply 1~50Hz 230 V
F4,F5: fuse 10A gL/gG
for OPSC and OPTC
K1P
M1P
for OPTC
K2P
M2P
(1) Fieldwiring: communication wiring
EKRUPG (refer to EKRUPG installation manual for more details)
A4P
A5P
SUB
MAIN
S1A
S2A
TERM
ON OFF
X1M
RS485
DC 24V
GND
ADDRESS=MAIN TERM=OFF
ADDRESS=SUB TERM=ON
EKACPG (refer to EKACPG installation manual for more details)
A02P
DICN
MODBUS
V2C
S3A
For S3A setting see installation manual
Description
Connection diagram
Drawing number
4TW57579-2
Revision
B
Page
1
Unit name
EWAQ/EWYQ 80-260


(3) Fieldwiring: Digital input terminals
Switchbox
K1P
S1S S2S S3S S4S
OBLIGATORY FOR MODELS WITHOUT OPSC/OPTC/OPSP/ OPTP/OPHP
Ch.DI1 Ch.DI2 Ch.DI3 Ch.DI4
(4) Fieldwiring: Analog input terminals
(connection is depending on type setting: NTC or mA or V or DI)
R8T
Ch.AI1 Example type: NTC
5V Signal GND
0 to 20mA
mA measurement (5V power supply by PCB)
mA measurement (External power supply)
0 to 10VDC
S5S
Ch.AI3 Example type: V-measurement
Ch.AI4 Example type: DI switch
Ch.AI2 Example type: mA measurement
(5) Fieldwiring: Analog output terminals (types: mA or V)
0 to 20mA or 10V
Ch.AO1 Example type: mA or V output
(6) Fieldwiring: Output terminals
Fieldheater contact (max 1kW resistive, 230 VAC)
E5H
Pump contact for models without OPSC/OPTC/OPSP/ OPTP/OPHP (Maximum load: 2A-230VAC) Minimum load: 10mA-5VDC)
K1S K1P
External power supply (ex 24VAC or 230VAC)
Operation compressor contact AC15 (max 3A, 230VAC)
not for EWAQ/EWYQ 80-100
Oper-ation M11C
Oper-ation M12C
Oper-ation M21C
Oper-ation M22C
H11P H12P H21P H22P
External power supply (ex 24VAC or 230VAC)
Changeable digital output terminals
(Maximum load: 2A-230VAC, Minimum load: 10mA-5VDC)
Ch.D01: Alarm
Alarm NO (default)
Safety active = contact closed
No power = contact open
No safety = contact open
Alarm NC (software setting necessary)
Safety active = contact closed
No power = contact closed
No safety = contact open
H1P
Ch.DO2 General operation (default)
Ch.DO3 Ch.DO4 Ch.DO5 Ch.DO6
MODELS WITHOUT OPTC OR OPTP
H2P H3P H4P H5P H6P
External power supply (ex 24VAC or 230VAC)
Description
Connection diagram
Drawing number
4TW57579-2
Revision
B
Page
2
Unit name
EWAQ/EWYQ 80-260

7 Sound data

7 - 1 Sound power spectrum

EWAQ-EWYQ-DAYN(N-P-B)

STD - Units LWE= 7°C / Tamb = 35°C	Sound power Lw per Octave band (dBA)								Total (dBA)
	63	125	250	500	1000	2000	4000	8000	LwA
EW(A/Y)Q080DAYN*	64	69	72	82	81	77	71	62	86
EW(A/Y)Q100DAYN*	62	66	71	79	82	80	74	64	86
EW(A/Y)Q130DAYN*	64	70	73	81	85	80	72	61	88
EW(A/Y)Q150DAYN*	65	74	75	85	84	80	74	65	89
EW(A/Y)Q180DAYN*	70	75	79	85	86	82	75	64	90
EW(A/Y)Q210DAYN*	67	74	79	85	86	83	76	64	90
EW(A/Y)Q(230/240)DAYN*	71	72	77	87	86	83	77	67	91
EW(A/Y)Q(250/260)DAYN*	71	72	77	87	86	83	77	67	91

OPLN - Units LWE= 7°C / Tamb = 35°C	Sound power Lw per Octave band (dBA)								Total (dBA)
	63	125	250	500	1000	2000	4000	8000	LwA
EW(A/Y)Q080DAYN*	62	67	70	80	79	75	69	60	84
EW(A/Y)Q100DAYN*	60	64	69	77	80	78	72	62	84
EW(A/Y)Q130DAYN*	61	67	70	78	82	77	69	58	85
EW(A/Y)Q150DAYN*	62	71	72	82	81	77	71	62	86
EW(A/Y)Q180DAYN*	68	73	77	83	84	80	73	62	88
EW(A/Y)Q210DAYN*	65	72	77	83	84	81	74	62	88
EW(A/Y)Q(230/240)DAYN*	68	69	74	84	83	80	74	64	88
EW(A/Y)Q(250/260)DAYN*	68	69	74	84	83	80	74	64	88

OPLN - Units LWE= 7°C / Tamb = 25°C	Sound power Lw per Octave band (dBA)								Total (dBA)
	63	125	250	500	1000	2000	4000	8000	LwA
EW(A/Y)Q080DAYN*	61	66	69	79	78	74	68	59	83
EW(A/Y)Q100DAYN*	59	63	68	76	79	77	71	61	83
EW(A/Y)Q130DAYN*	60	66	69	77	81	76	68	57	84
EW(A/Y)Q150DAYN*	60	69	70	80	79	75	69	90	84
EW(A/Y)Q180DAYN*	66	71	75	81	82	79	72	60	86
EW(A/Y)Q210DAYN*	63	70	75	81	82	79	72	60	86
EW(A/Y)Q(230/240)DAYN*	67	68	73	83	82	79	73	63	87
EW(A/Y)Q(250/260)DAYN*	67	68	73	83	82	79	73	63	87

NOTES

1 Values of Sound power according to ISO9614-2

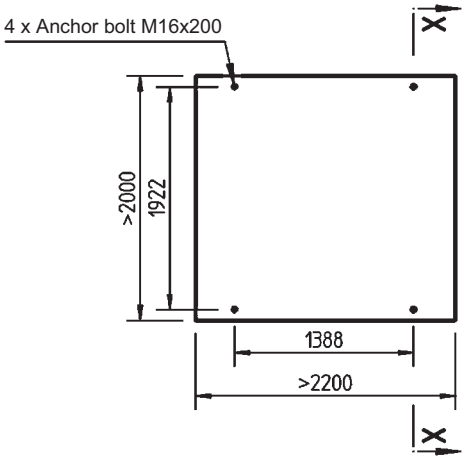
2 LWE= Leaving Water Evaporator temperature (°C)
Tamb= Ambient temperature

4TW57577-1C

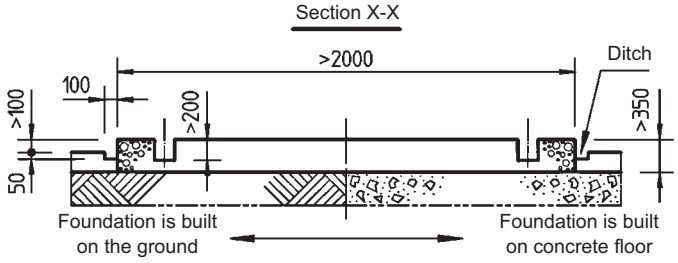
8 Installation

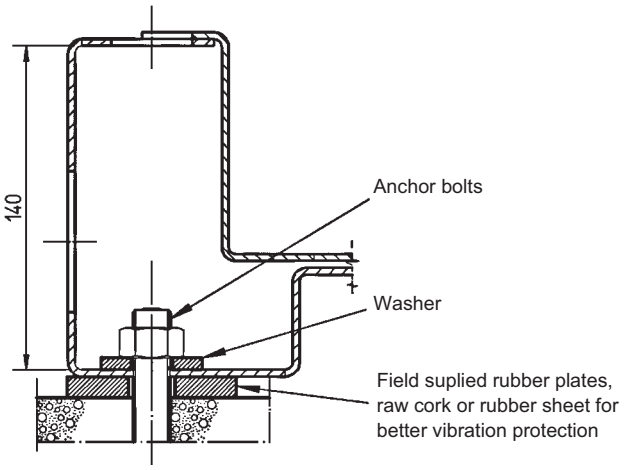
8 - 1 Fixation and foundation of units

EWAQ-EWYQ080-150DAYN(N-P-B)



Fix anchor bolts into the concrete foundation.
The concrete foundation should be higher than the floor level by approximately 100 mm for ease of plumbing work and better drain.
Further, strength of the floor should be sufficient to support the weights of concrete foundation and unit.
Be certain that foundation surface is even and flat.





NOTES

1 The measurement tabulated is based on the fact the base is made in the ground or on a concrete floor. In case the base is made on a concrete floor. In case the base is made on a rigid concrete floor, it is possible to include thickness of concrete floor, in that of the base.

2 In case a base is made on concrete floor, be sure to provide a ditch as shown. It is important to extract drainage regardless of wether a base is made in the ground or on the concrete floor. (Ditch → Sewerage).

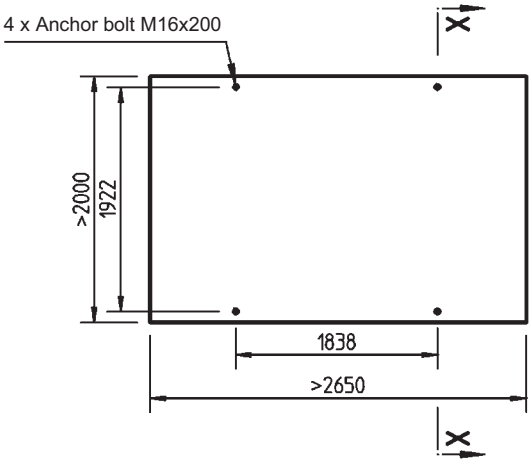
3 Ingredient ratio of the concrete is cement: 1, sand: 2, gravel: 3, which is standard and insert iron bars of ∅10 at every interval of 300mm. The edge of the concrete base should be planed.

4TW57599-1

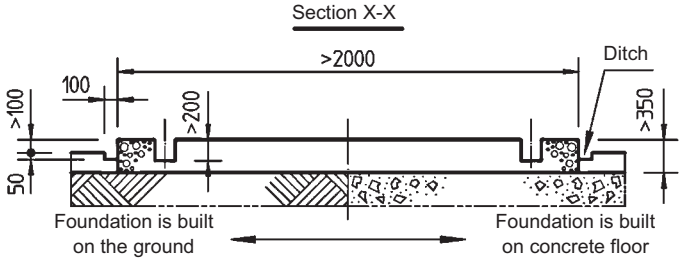
8 Installation

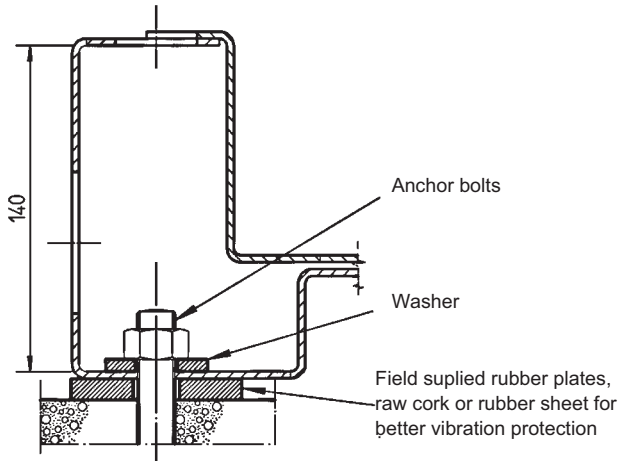
8 - 1 Fixation and foundation of units

EWAQ-EWYQ180-210DAYN(N-P-B)



Fix anchor bolts into the concrete foundation.
The concrete foundation should be higher than the floor level by approximately 100 mm for ease of plumbing work and better drain.
Further, strength of the floor should be sufficient to support the weights of concrete foundation and unit.
Be certain that foundation surface is even and flat.





NOTES

1 The measurement tabulated is based on the fact the base is made in the ground or on a concrete floor. In case the base is made on a concrete floor. In case the base is made on a rigid concrete floor, it is possible to include thickness of concrete floor, in that of the base.

2 In case a base is made on concrete floor, be sure to provide a ditch as shown. It is important to extract drainage regardless of wether a base is made in the ground or on the concrete floor. (Ditch → Sewerage).

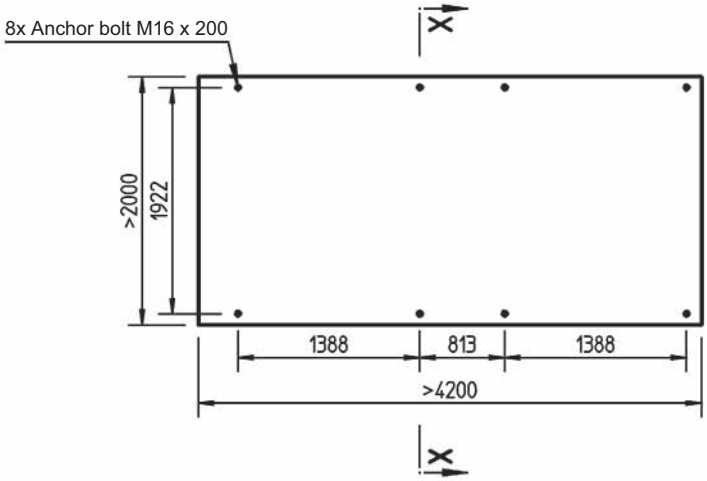
3 Ingredient ratio of the concrete is cement: 1, sand: 2, gravel: 3, which is standard and insert iron bars of ∅10 at every interval of 300mm. The edge of the concrete base should be planed.

4TW57619-1

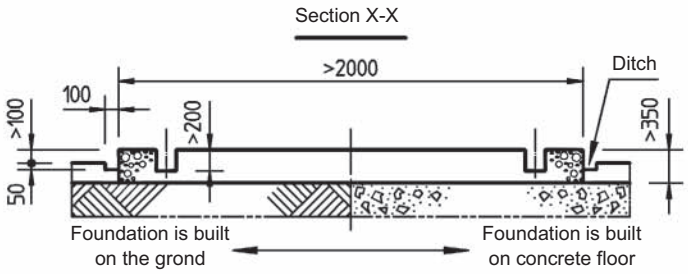
8 Installation

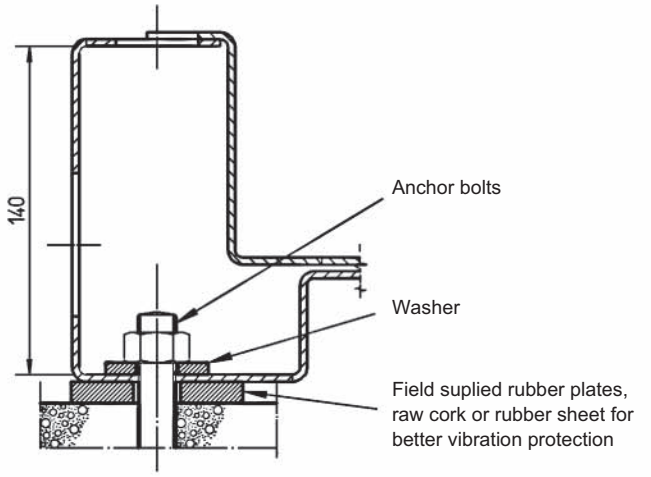
8 - 1 Fixation and foundation of units

EWAQ240-260DAYN(N-P-B)_EWYQ230-250DAYN(N-P-B)



Fix anchor bolts into the concrete foundation.
The concrete foundation should be higher than the floor level by approximately 100 mm for ease of plumbing work and better drain.
Further, strength of the floor should be sufficient to support the weights of concrete foundation and unit.
Be certain that foundation surface is even and flat.





NOTES

1 The measurement tabulated is based on the fact the base is made in the ground or on a concrete floor. In case the base is made on a rigid concrete floor, it is possible to include thickness of concrete floor in that of the base.

2 In case a base is made on concrete floor, be sure to provide a ditch as shown. It is important to extract drainage regardless of wether a base is made in the ground or on the concrete floor. (Ditch → Sewerage).

3 Ingredient ratio of the concrete is cement: 1, sand:2, gravel:3, which is standard and insert iron bars of ∅10 at every interval of 300mm. The edge of the concrete base should be planed.

4TW57639-1

ITEMS (1) (5)			Cooling water (3)			Cooled water		Heated water (2)				Tendency if out of criteria
			Circulating system		Once flow			Low temperature		High temperature		
			Circulating water	Supply water (4)	Flowing water	Circulating water [Below 20°C]	Supply water (4)	Circulating water [20°C ~ 60°C]	Supply water (4)	Circulating water [60°C ~ 80°C]	Supply water (4)	
Items to be controlled:	pH	at 25°C	6.5~8.2	6.0~8.0	6.8~8.0	6.8~8.0	6.8~8.0	7.0~8.0	7.0~8.0	7.0~8.0	7.0~8.0	Corrosion + scale
	Electrical conductivity	[mS/m] at 25°C	Below 80	Below 30	Below 40	Below 40	Below 30	Below 30	Below 30	Below 30	Below 30	Corrosion + scale
		(μS/cm) at 25°C (1)	(Below 800)	(Below 300)	(Below 400)	(Below 400)	(Below 300)	(Below 300)	(Below 300)	(Below 300)	(Below 300)	Corrosion + scale
	Chloride ion	[mgCl^-/l]	Below 200	Below 50	Below 50	Below 50	Below 50	Below 50	Below 50	Below 30	Below 30	Corrosion
	Sulfate ion	[mgSO^{2-}_4/l]	Below 200	Below 50	Below 50	Below 50	Below 50	Below 50	Below 50	Below 30	Below 30	Corrosion
	M-alkalinity (pH4.8)	[mg$CaCO_3$/l]	Below 100	Below 50	Below 50	Below 50	Below 50	Below 50	Below 50	Below 50	Below 50	Scale
	Total hardness	[mg$CaCO_3$/l]	Below 200	Below 70	Below 70	Below 70	Below 70	Below 70	Below 70	Below 70	Below 70	Scale
	Calcium hardness	[mg$CaCO_3$/l]	Below 150	Below 50	Below 50	Below 50	Below 50	Below 50	Below 50	Below 50	Below 50	Scale
	Silica ion	[mgSiO_2/l]	Below 50	Below 30	Below 30	Below 30	Below 30	Below 30	Below 30	Below 30	Below 30	Scale
Items to be referred to:	Iron	[mgFe/l]	Below 1.0	Below 0.3	Below 1.0	Below 1.0	Below 0.3	Below 1.0	Below 0.3	Below 1.0	Below 0.3	Corrosion + scale
	Copper	[mgCu/l]	Below 0.3	Below 0.1	Below 1.0	Below 1.0	Below 1.0	Below 1.0	Below 0.1	Below 1.0	Below 0.1	Corrosion
	Sulfite ion	[mgS^{2-}/l]	Not detectable	Not detectable	Not detectable	Not detectable	Not detectable	Not detectable	Not detectable	Not detectable	Not detectable	Corrosion
	Ammonium ion	[mgNH^+_4/l]	Below 1.0	Below 0.1	Below 1.0	Below 1.0	Below 0.1	Below 0.3	Below 0.1	Below 0.1	Below 0.1	Corrosion
	Remaining chloride	[mgCL/l]	Below 0.3	Below 0.3	Below 0.3	Below 0.3	Below 0.3	Below 0.25	Below 0.3	Below 0.1	Below 0.3	Corrosion
	Free carbide	[mgCO_2/l]	Below 4.0	Below 4.0	Below 4.0	Below 4.0	Below 4.0	Below 0.4	Below 4.0	Below 0.4	Below 4.0	Corrosion
	Stability index		6.0~7.0	---	---	---	---	---	---	---	---	Corrosion + scale

3TW50179-1

1 Names, definitions and units are according to JIS K 0101. Units and figures between brackets are old units published as reference only.

2 In case of using heated water (more than 40°C), corrosion is generally noticeable.
Especially when the iron material is in direct contact with water without any protection shields, it is desireable to give the valid measures for corrosion. e.g. chemical measure.

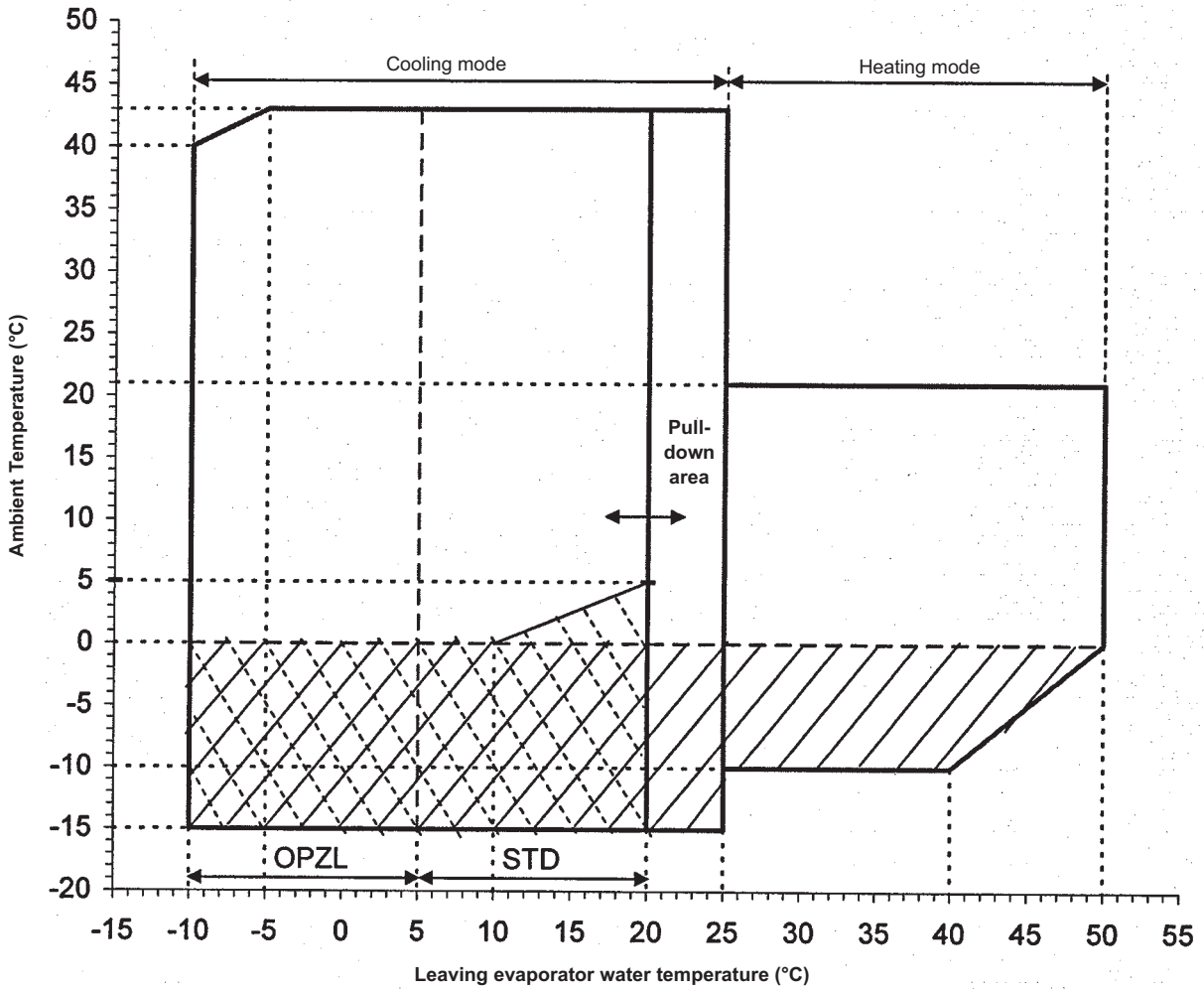
3 In the cooling water using hermetic cooling tower, dosed circuit water is according to heated water standard, and scattered water is according to cooling water standard.

4 Supply water is considered drink water, industrial water and ground water except for genuine water, neutral water and soft water.

5 The above mentioned items are representable items in corrosion and scale cases.

9 Operation range

EWYQ080-100-180-210-230-250DAYN(N-P-B)



STD: Standard unit

OPZL: Leaving water evaporator from -10 to 5°C by use of glycol

Protect the water circuit against freezing by:

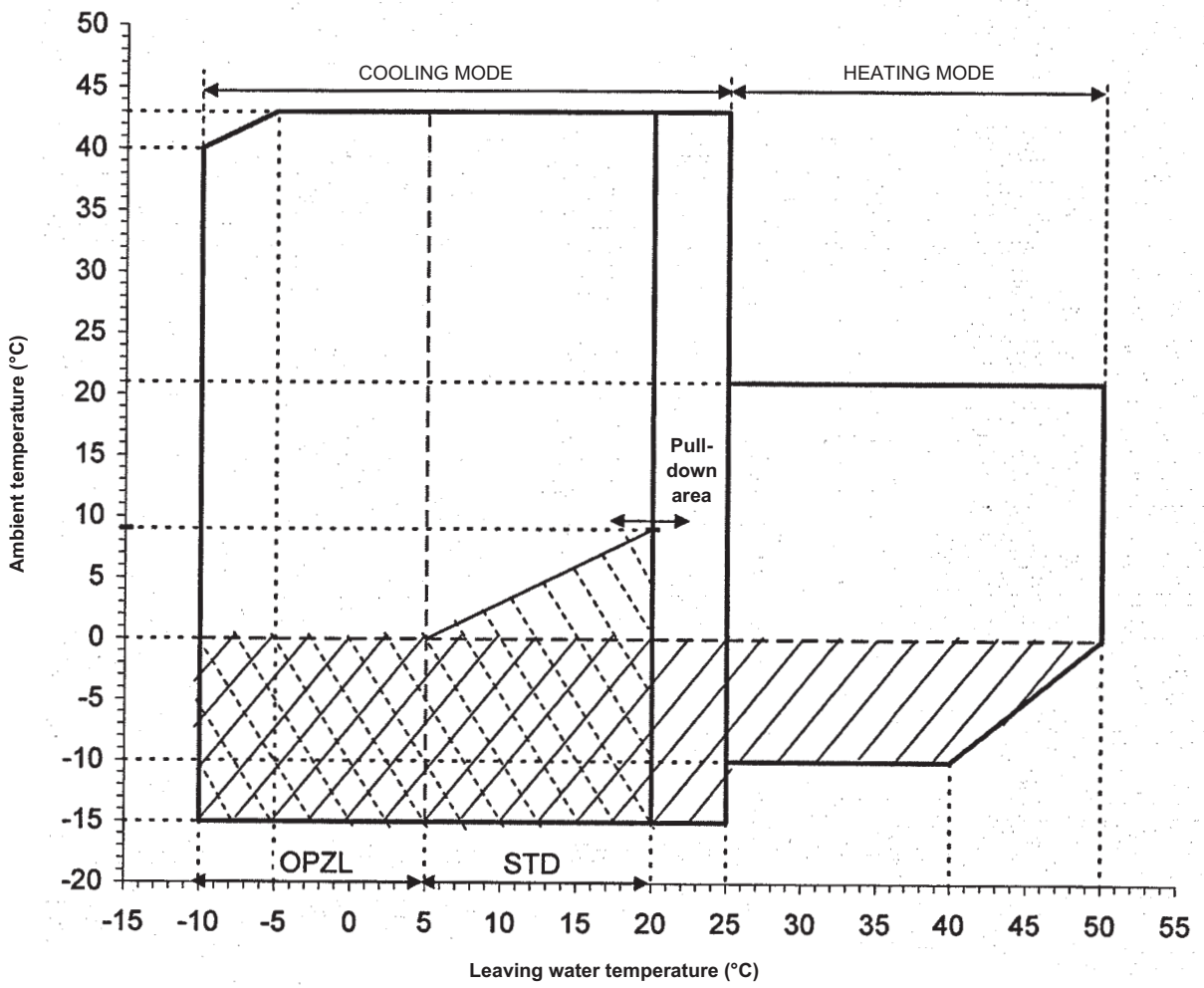
* OR OP10: heater tape
* Or filling up the system with a glycol solution

OPIF: Option Inverter Fans EWYQ080-100-180-210-230-250

3TW57703-1A

9 Operation range

EWYQ130-150DAYN(N-P-B)



STD: Standard unit

OPZL: Leaving water evaporator from -10 to 5°C by use of glycol

Protect the water circuit against freezing by:

* OR OP10: heater tape

* Or filling up the system with a glycol solution

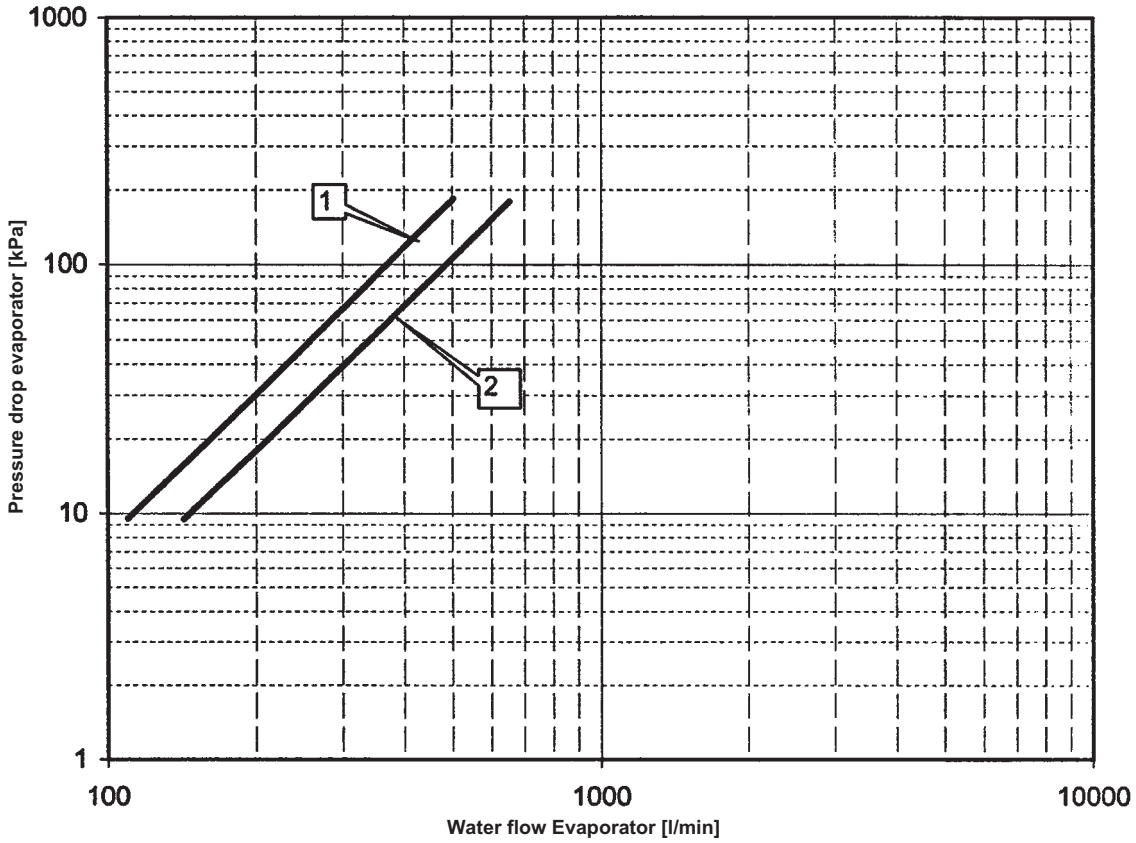
OPIF Option Inverter Fans EWYQ130-150

4TW57673-1

10 Hydraulic performance

10 - 1 Water pressure drop curve evaporator

EWYQ80-100DAYN(N-P-B)



1. EWYQ80DAYN*

2. EWYQ100DAYN*

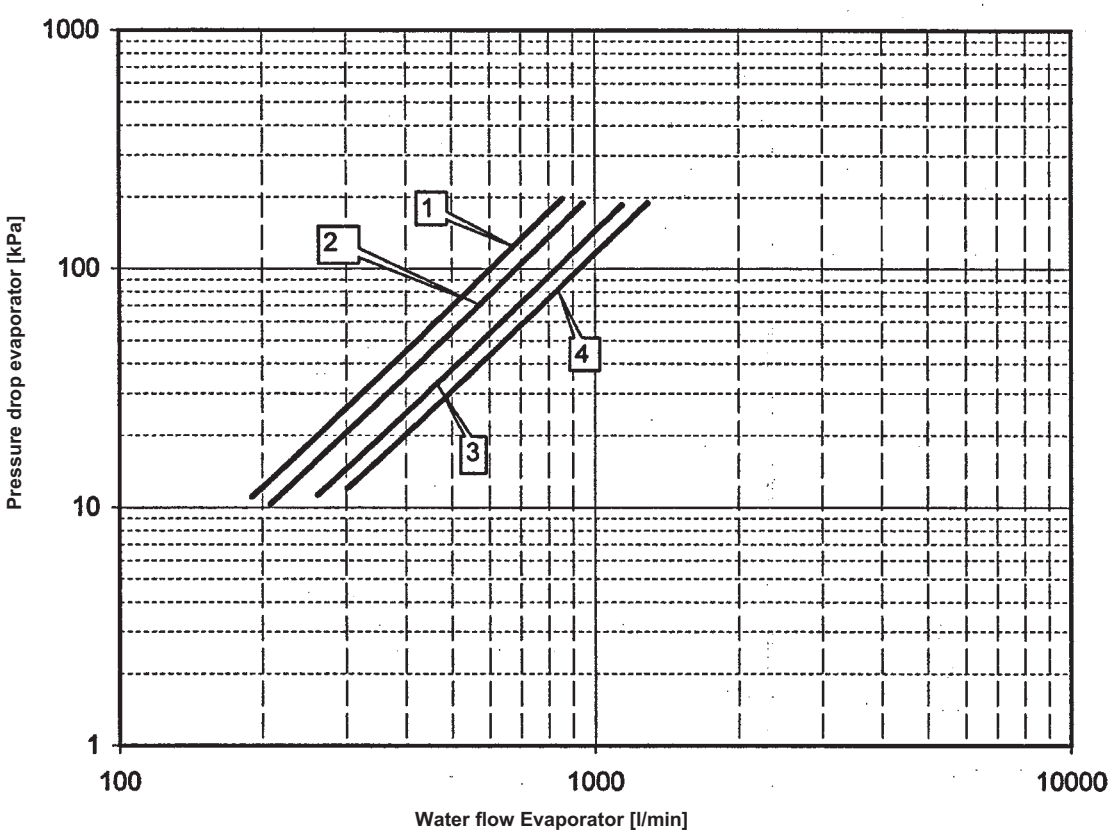
Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57659-5

10 Hydraulic performance

10 - 1 Water pressure drop curve evaporator

EWYQ130-210DAYN(N-P-B)



1. **EWYQ130DAYN***
2. **EWYQ150DAYN***
3. **EWYQ180DAYN***
4. **EWYQ210DAYN***

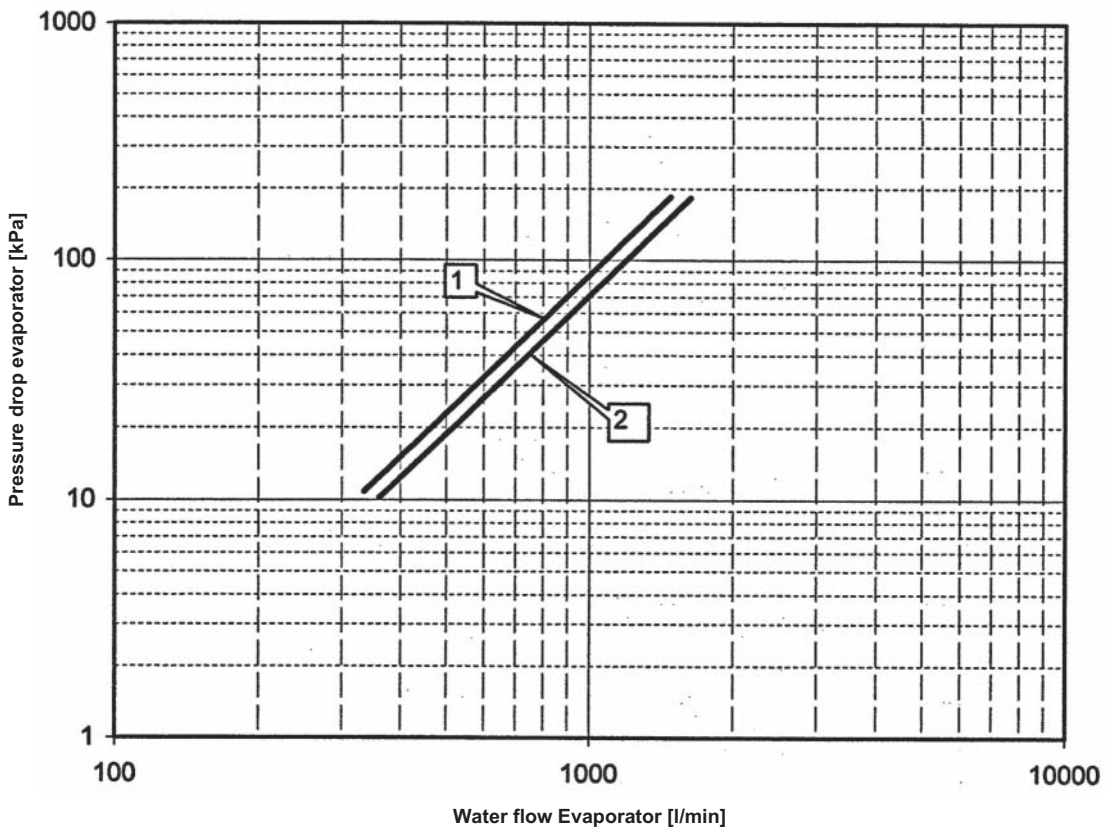
Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57679-5

10 Hydraulic performance

10 - 1 Water pressure drop curve evaporator

EWYQ230-250DAYN(N-P-B)



1. EWYQ230DAYN*

2. EWYQ250DAYN*

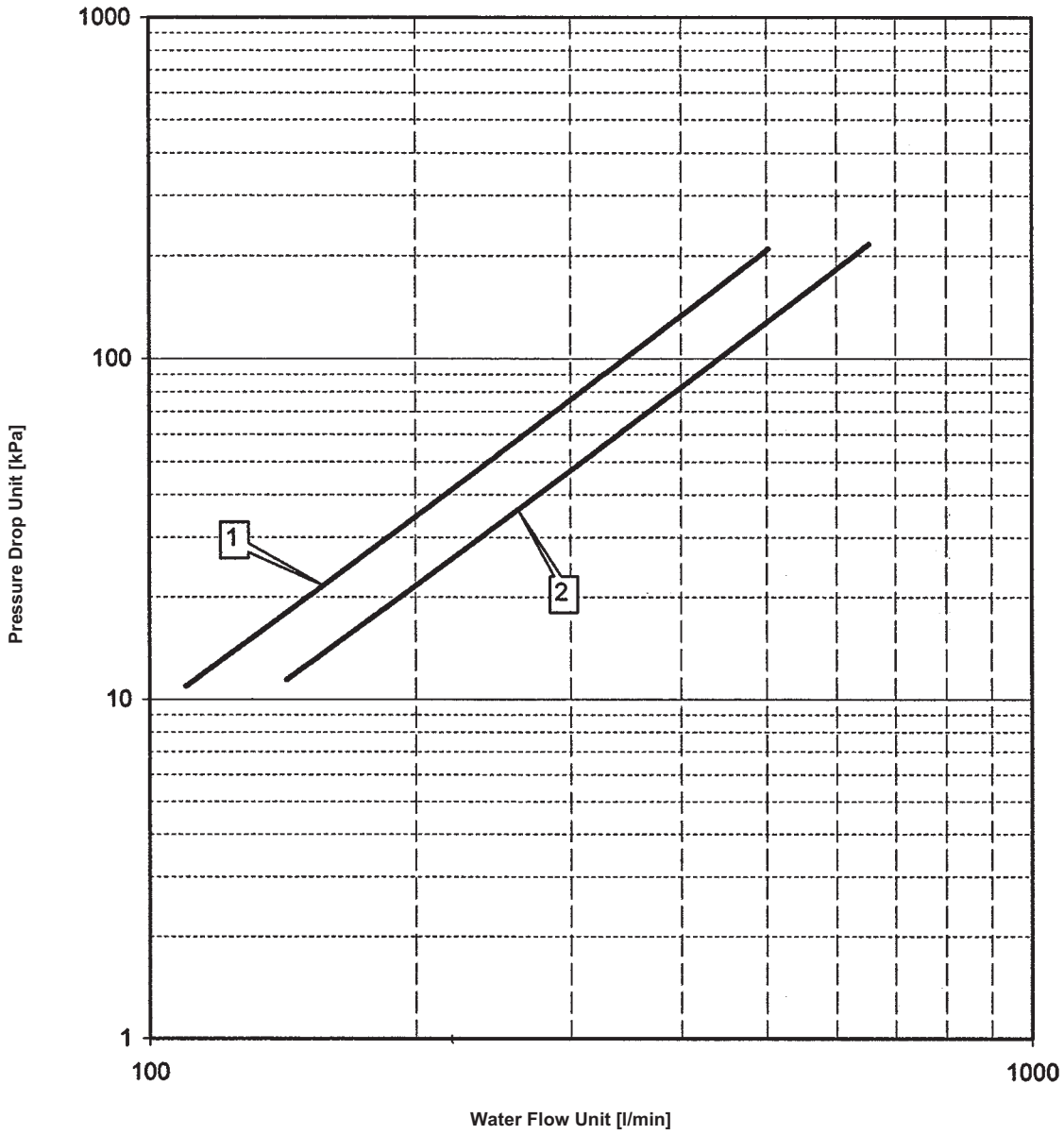
Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57719-5

10 Hydraulic performance

10 - 2 Static pressure drop unit

EWYQ080-100DAYN(N)



1. EWYQ080DAYN* Standard model

2. EWYQ100DAYN* Standard model

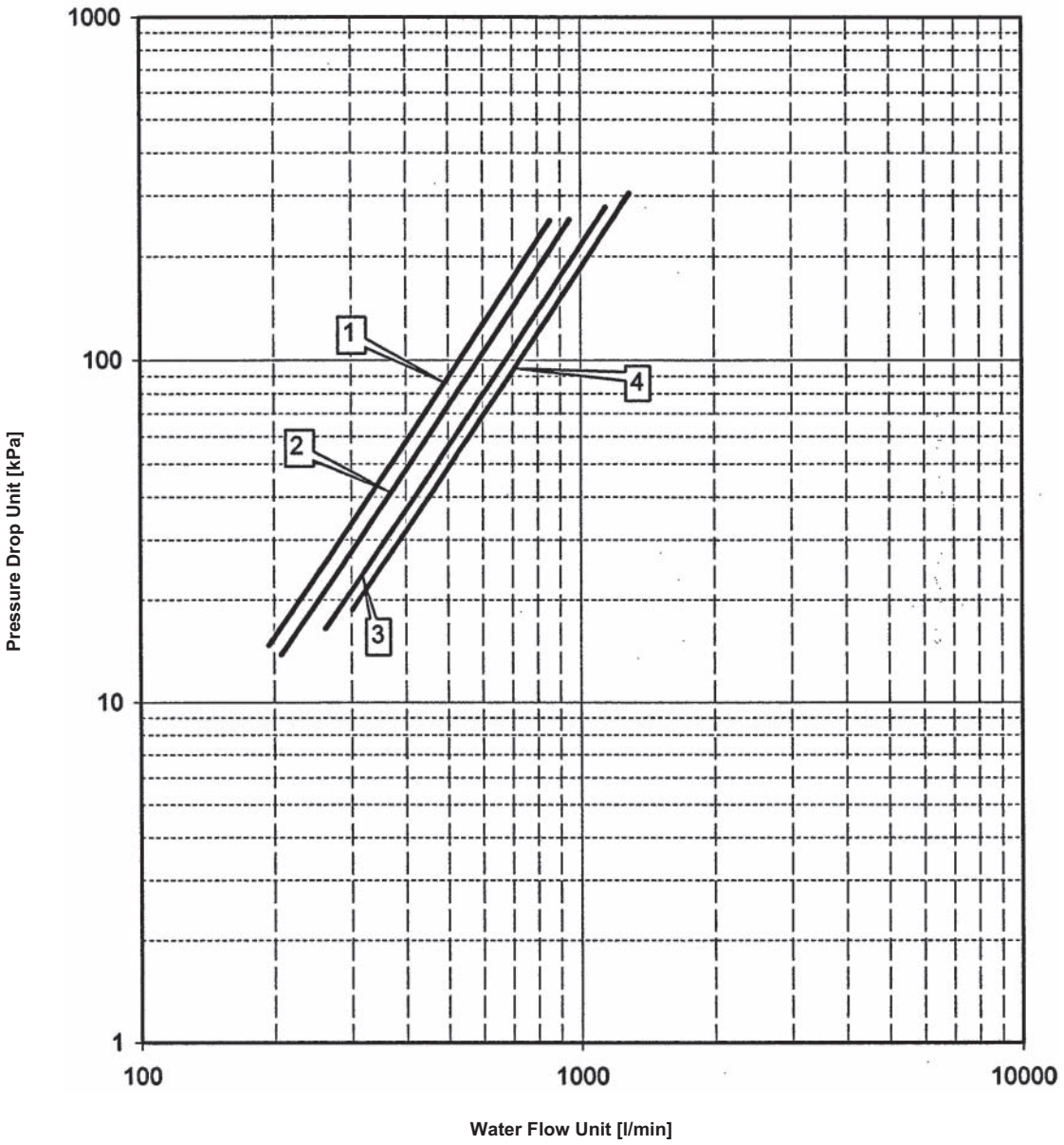
Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57659-7

10 Hydraulic performance

10 - 2 Static pressure drop unit

EWYQ130-210DAYN(N)



1. EWYQ130DAYN* Standard model
2. EWYQ150DAYN* Standard model
3. EWYQ180DAYN* Standard model
4. EWYQ210DAYN* Standard model

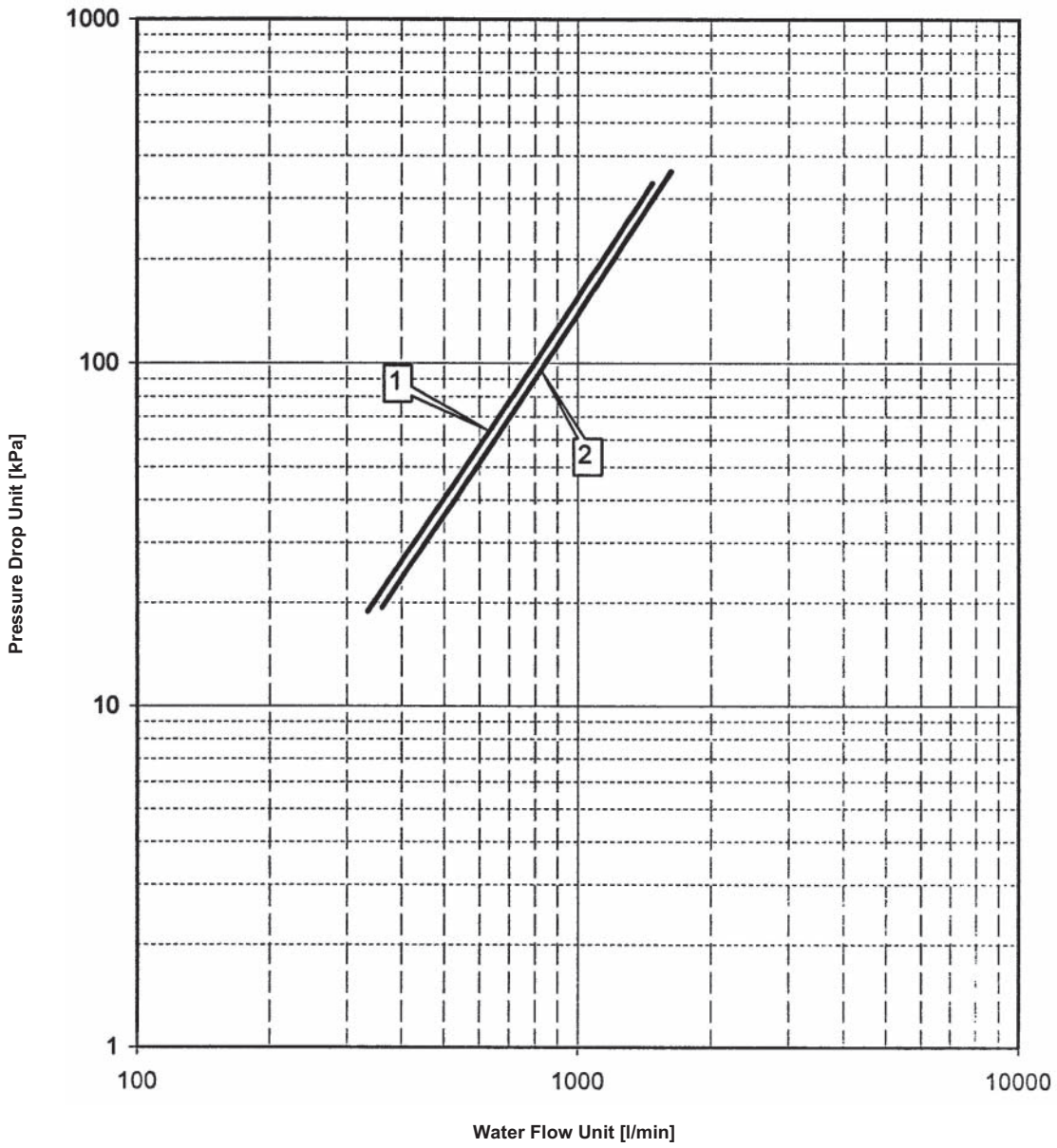
Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57679-7

10 Hydraulic performance

10 - 2 Static pressure drop unit

EWYQ230-250DAYN(N)



1. EWYQ230DAYN* Standard model

2. EWYQ250DAYN* Standard model

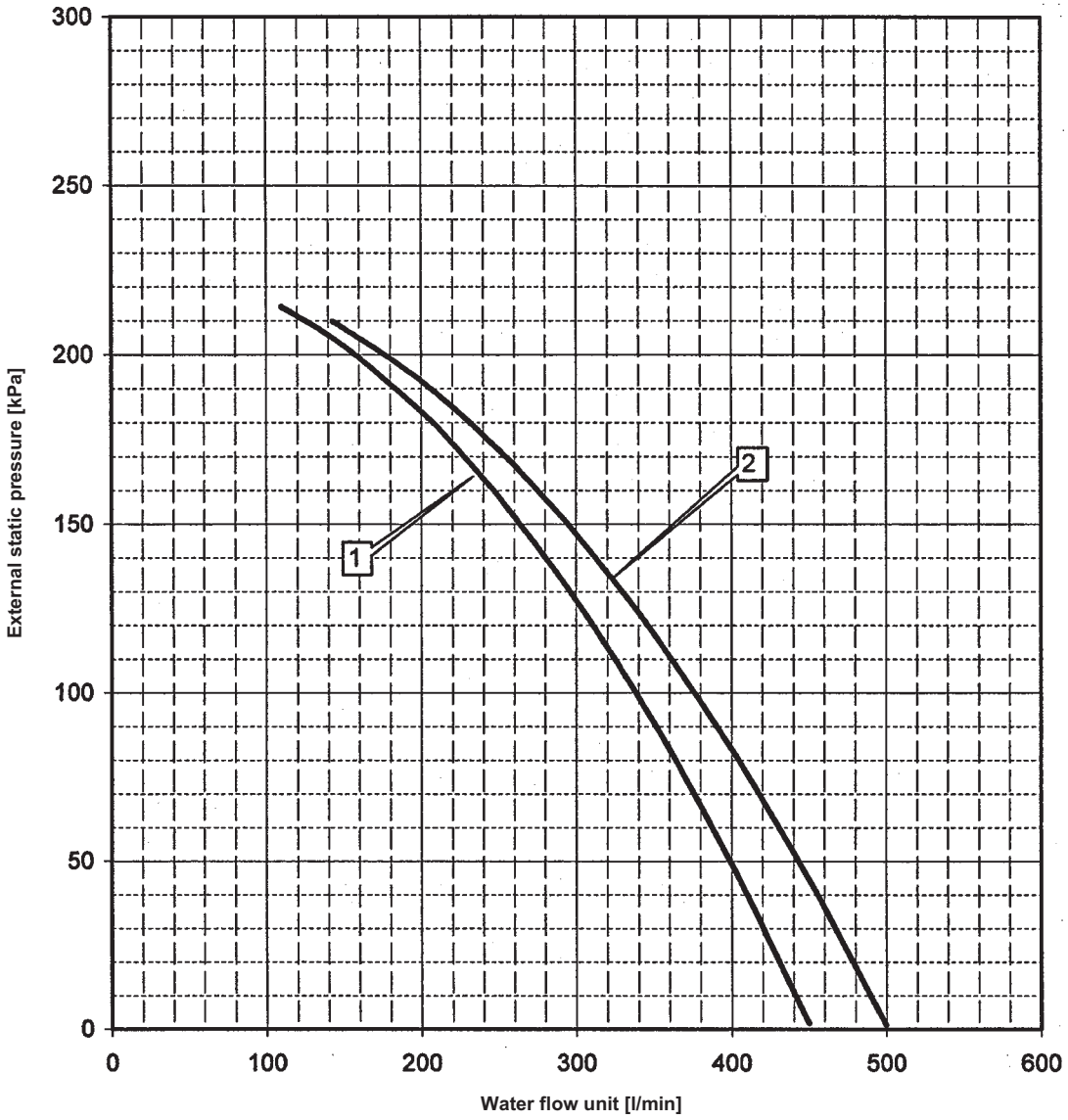
Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57719-7

10 Hydraulic performance

10 - 2 Static pressure drop unit

EWYQ080-100DAYN*



1. EWAQ080DAYN* + OPSP/OPTP

2. EWAQ100DAYN* + OPSP/OPTP

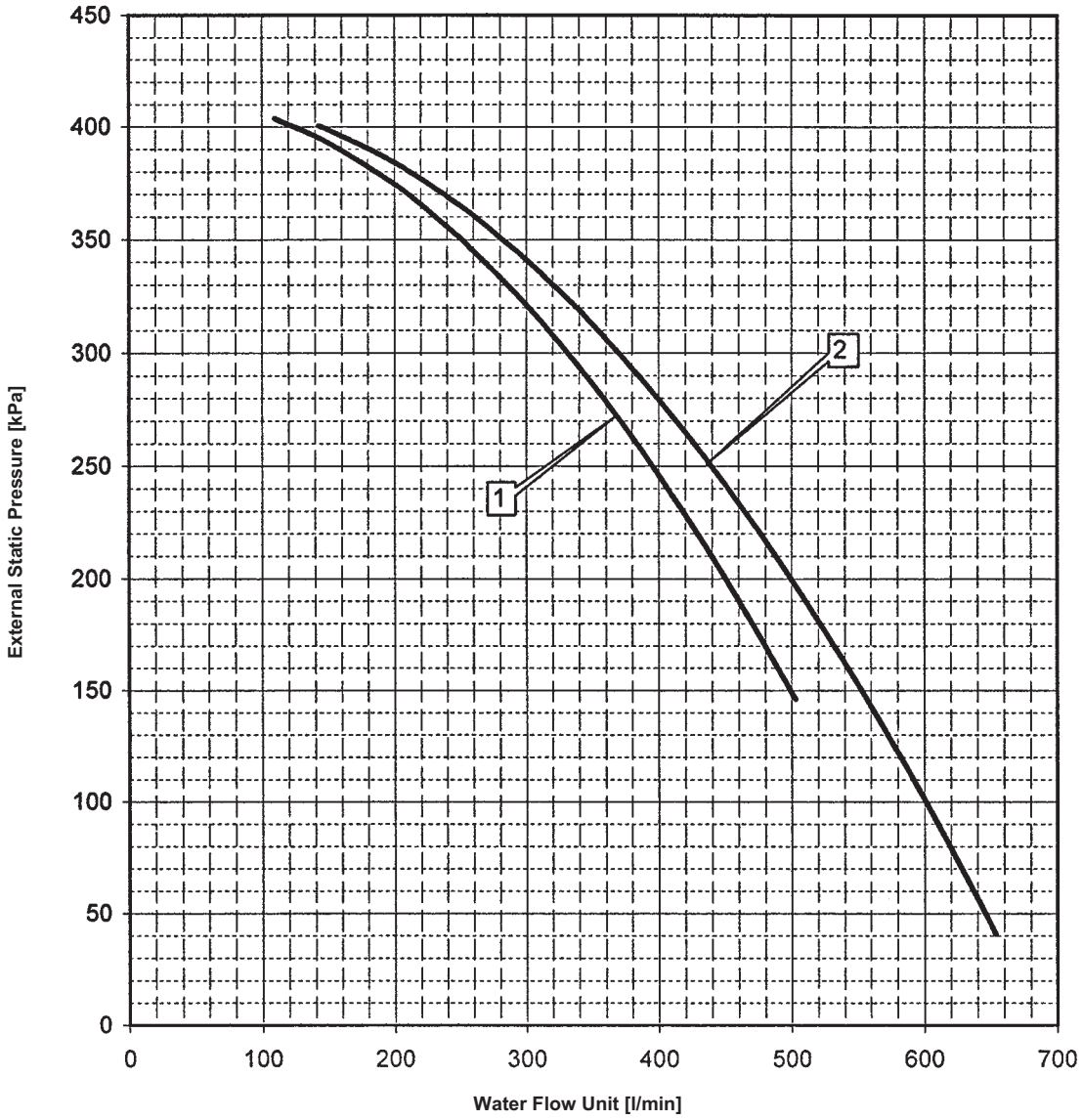
Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57659-4A

10 Hydraulic performance

10 - 2 Static pressure drop unit

EWYQ080-100DAYN(OPHP)



1. EWYQ080DAYN* + OPHP

2. EWYQ100DAYN* + OPHP

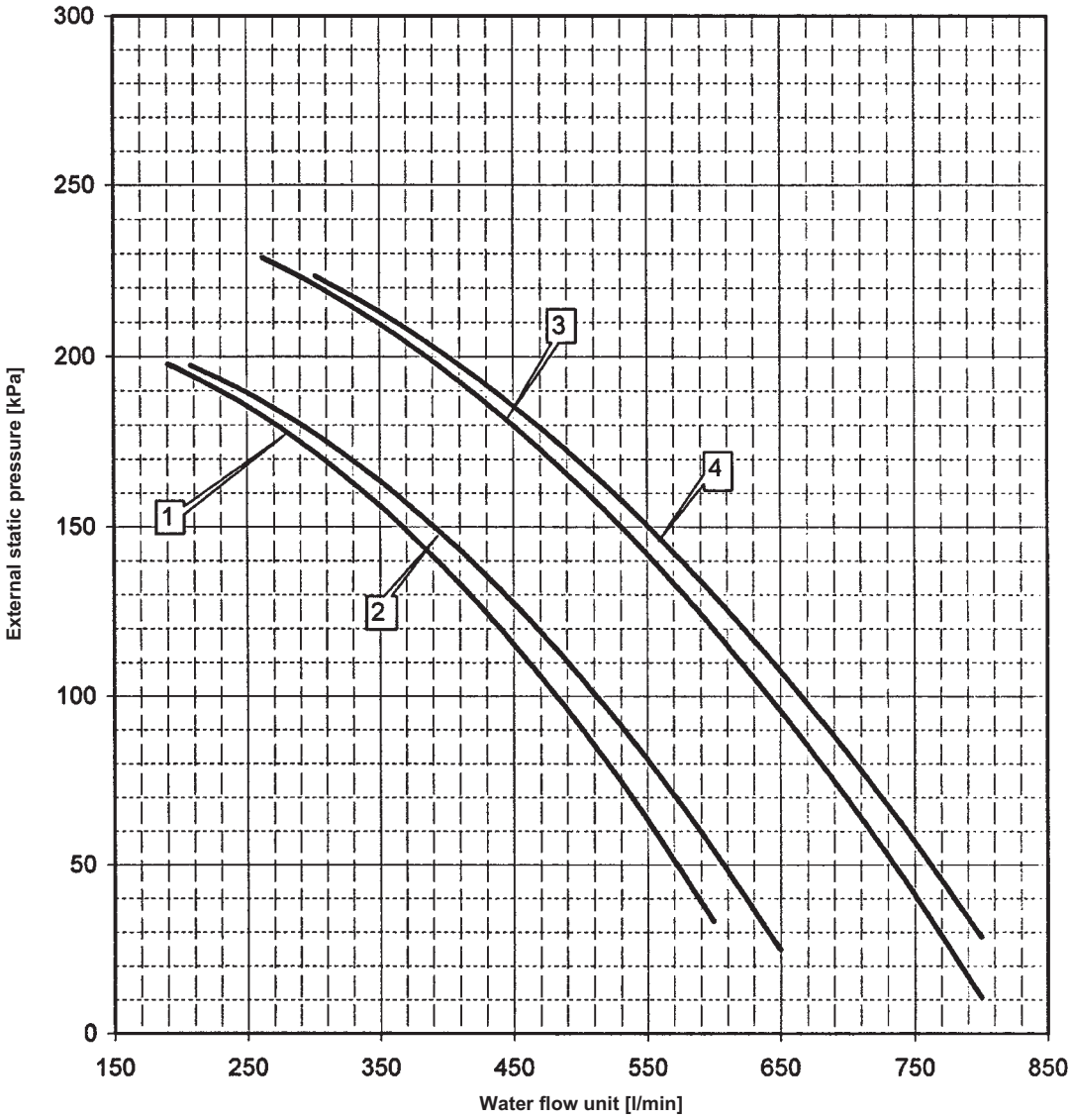
Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57659-9

10 Hydraulic performance

10 - 2 Static pressure drop unit

EWYQ130-210DAYN*



1. EWYQ130DAYN* + OPSP/OPTP
2. EWYQ150DAYN* + OPSP/OPTP
3. EWYQ180DAYN* + OPSP/OPTP
4. EWYQ210DAYN* + OPSP/OPTP

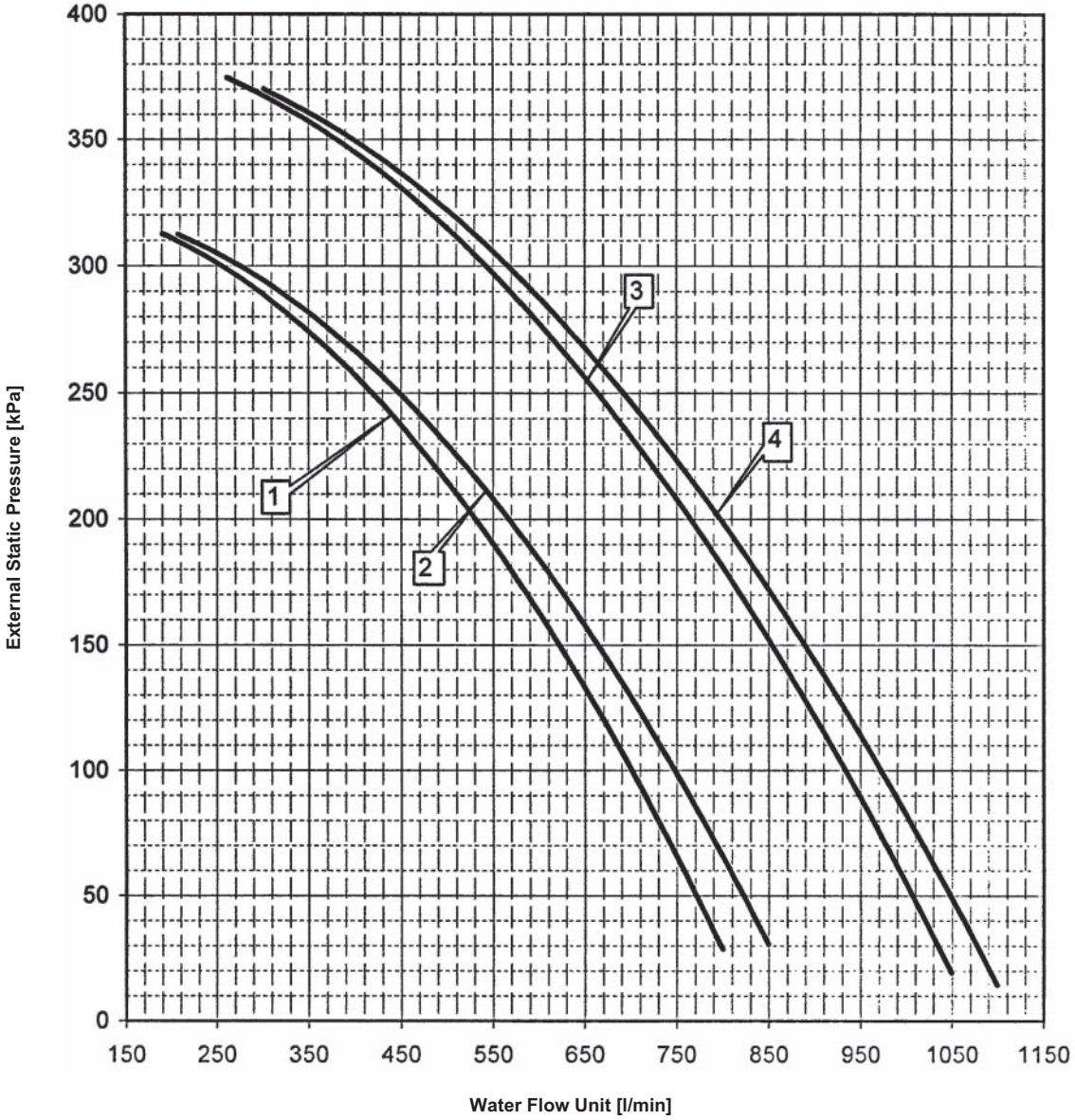
Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57679-4A

10 Hydraulic performance

10 - 2 Static pressure drop unit

EWYQ130-210DAYN (OPHP)



1. EWYQ130DAYN* + OPHP
2. EWYQ150DAYN* + OPHP
3. EWYQ180DAYN* + OPHP
4. EWYQ210DAYN* + OPHP

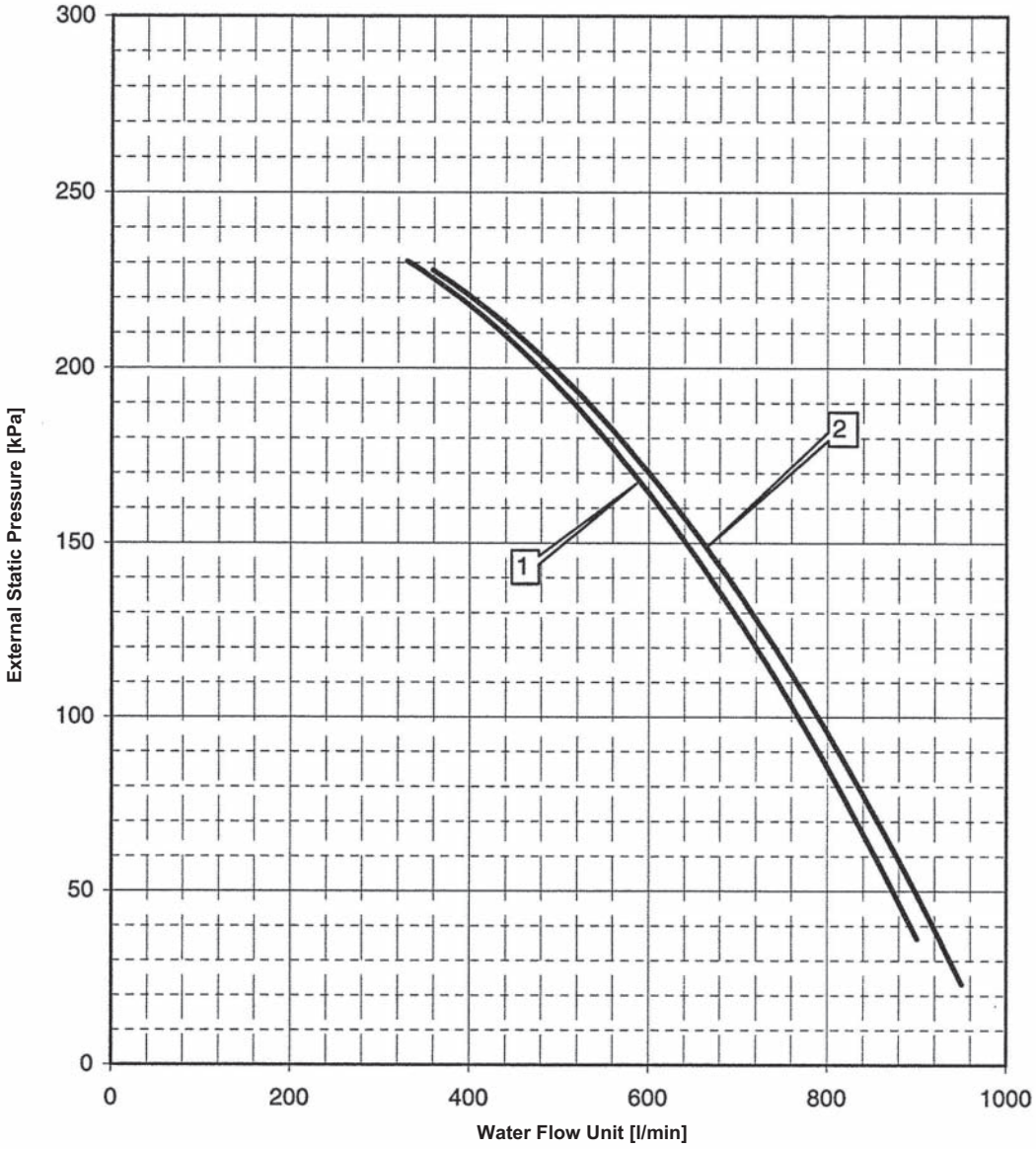
Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57679-9

10 Hydraulic performance

10 - 2 Static pressure drop unit

EWYQ230-250DAYN*



1. EWAQ230DAYN* + OPSP/OPTP

2. EWAQ250DAYN* + OPSP/OPTP

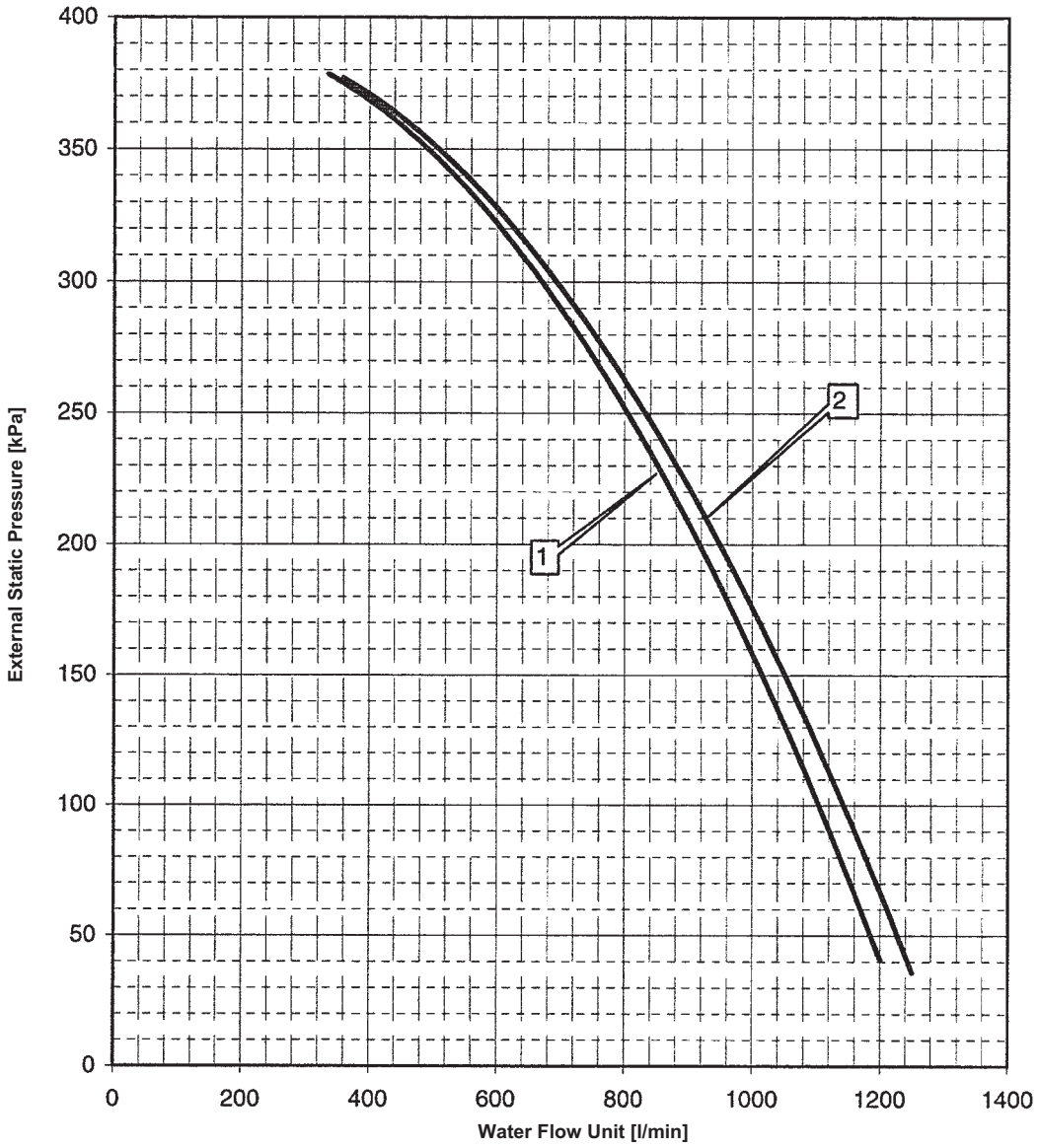
Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57719-4B

10 Hydraulic performance

10 - 2 Static pressure drop unit

EWYQ230-250DAYN(OPHP)



1. EWYQ230DAYN* + OPHP

2. EWYQ250DAYN* + OPHP

Warning:
Selecting a flow outside the curves can cause damage to or malfunction of the unit. See also minimum and maximum allowed water flowrange in the technical specifications.

4TW57719-9A

Notes:

Daikin's unique position as a manufacturer of air conditioning equipment, compressors and refrigerants has led to its close involvement in environmental issues. For several years Daikin has had the intention to become a leader in the provision of products that have limited impact on the environment. This challenge demands the eco design and development of a wide range of products and an energy management system, resulting in energy conservation and a reduction of waste.

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